

Biometric Options: Protecting Your PC

HUB

The Computer Paper

October 2008

Volume 21 Number 10

Free

Getting it Back: When
Laptops Grow Legs

How Low Can You Go?
Sub \$700 Laptops

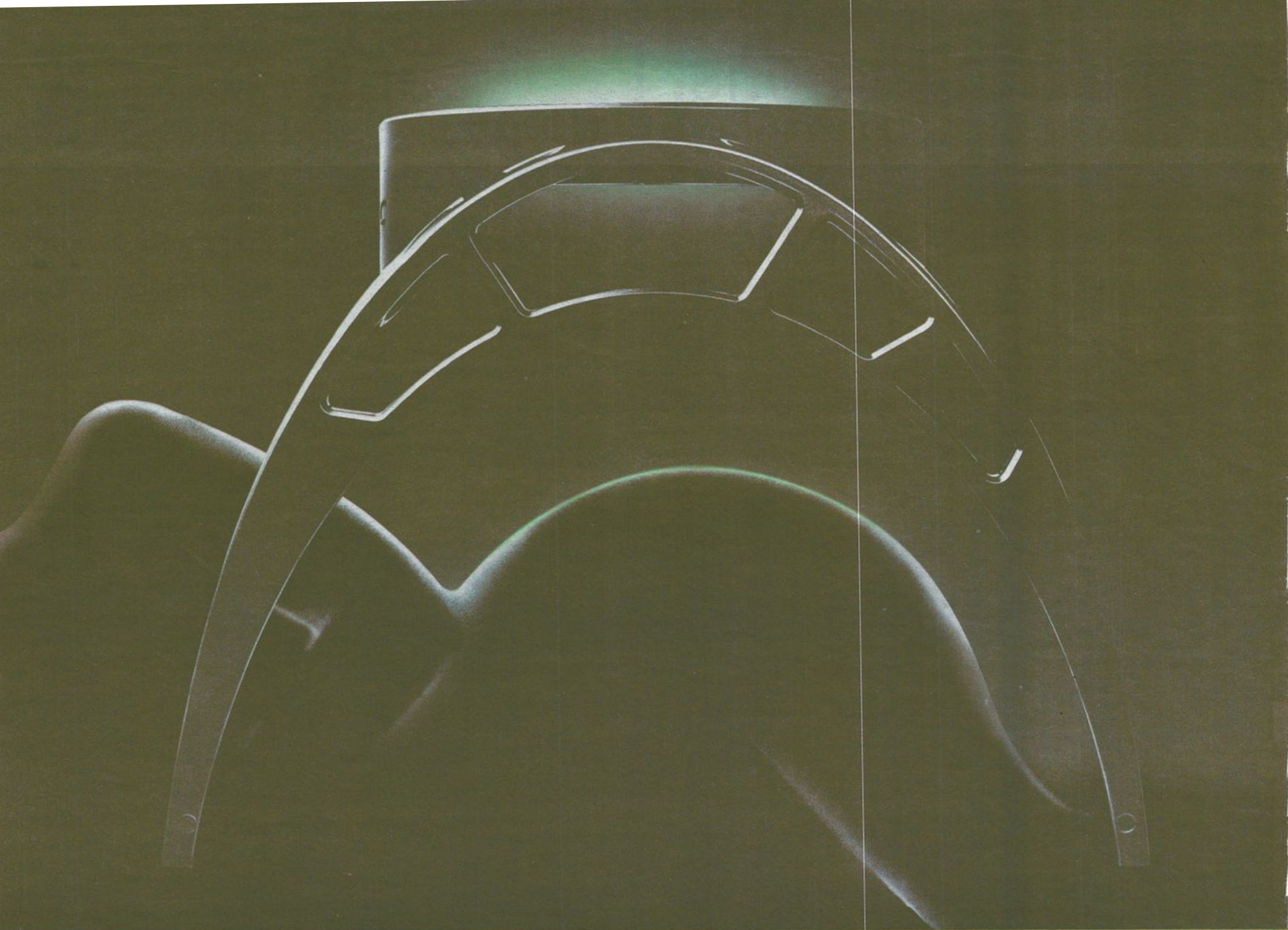
A Word to the Wise
on Office Security

IT



SECURITY

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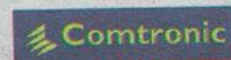


HAF 932

Cooler Master introduces the next generation of ultimate gaming and overclocking chassis with the HAF 932. The HAF 932 (High Air Flow) case is intelligently engineered with 3 gigantic 230mm fans propelling cool air throughout the case. The HAF interior design features: easy upgradability, creative cable management possibilities and tool less design. The combination of rugged exterior and incredible air flow makes this tower stand out from the rest.

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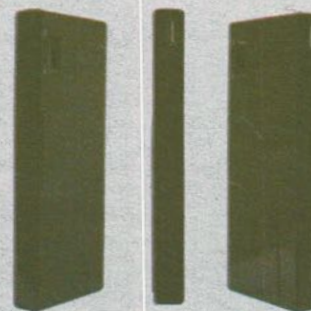
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The old adage "an ounce of prevention is worth a pound of cure" has never been more apt. Well, other than the fact that said adage uses the antiquated imperial system of measurement. Perhaps we should update the cliché for today so that 28.35 grams of prevention is worth .4535 kg of cure. Doesn't have quite the same ring but the point remains; a small preventative measure is infinitely more valuable before disaster strikes than a large and involving (and likely expensive) fix after the fact.

Take, for example, a friend and associate of mine. No names. He spilled what he claimed was coffee all over his laptop keyboard. Everyone knew the truth and he did finally confess that it was in fact wine that spilled and fried his computer. His older model Dell laptop wasn't particularly valuable but the data it contained was. And it, along with the laptop, was gone. A couple of weeks, more than \$1,000 worth of data recovery service and a new laptop later, he was back up and running. All his important work files, personal pictures, his music collection, a bunch of files that were sitting on his desktop and more were recovered and arrived via courier on DVDs. An expensive class, but an important lesson nonetheless.

In this scenario, my associate had no backup routine for his laptop. He had no contingency plan for what he'd do if disaster struck which, as any long-time computer user will tell you, it eventually will. Had he opted to backup his computer even once a week say on a Friday, before leaving the office for the weekend, he would have been able to simply restore his files upon receiving his replacement laptop. At most, he would have lost a week's worth of work. Since this incident happened on a weekend (as wine spilling accidents are wont to do) he wouldn't have lost anything save the couple of hours required to take data from the backup source to his new laptop, and, presumably, his glass of wine.

We're all apt to feel the "won't happen to me" syndrome. But whether through coffee (or wine) on the keyboard or the laptop being dropped, lost, left behind or stolen, it has to happen to someone. The law of averages suggests that one day it will be your turn.

I have had no fewer than three laptops lost (once) or stolen (twice). It's always upsetting but since I do all my work from a USB key and keep my data in the cloud, it's never too disruptive to my work. Personal pictures, videos, documents and files are kept on my desktop at home. Connected to a NAS drive (network attached storage), my backup routine is simple, predictable and reliable. Every evening before shutting down or at 3 a.m. if it's left on over night, the computer does a scan and backs up any new data. Since this happens every day, it takes no time at all.

Should I lose my USB key along with my laptop, that would be a bit of a killer. However, I'd only lose as much data as I created since the last time the USB key was plugged in to either my home or office PCs. An ingenious software program called

AllwaySync resides on my USB drive and autoruns every time it's plugged in to a host PC. It analyzes and backs-up everything that it hasn't seen before. That includes files that have been modified since the last time it was plugged in. It does the same thing behind the scenes while I work. Before ejecting the USB key, it backs up again. So, unless I were to lose my laptop, lose my USB key, and have my office and home computers stolen all in the span of a day (I suppose stranger things have happened...) I feel pretty secure with my backup routine. And even if the above scenario did play out, I'd still have all my e-mail, complete with attachments. All of the copy that makes up HUB: The Computer Paper would be safe too with edited copy sitting in my Google Docs folders online and on the content management system we use to organize the magazine process called, (appropriately enough) Magazine Manager, and raw copy still safely in my Gmail inbox.

As we turn our thoughts to securing our work and personal files from prying eyes and securing our documents and personal property against sticky fingers, we need to think also about how to make sure we have at the very least one safe, current and usable backup of our data should the worst case scenario arise.

Did you know that October is "cyber security month?" Me neither. I'm not sure who declared October cyber security month or what the impetus might be (or whether they're truly qualified to go messing with the calendars like that) but hey, the timing couldn't be better for us, given that this is our IT security issue. And cyber security month is as good a reason to celebrate and get in one last beer on a patio near you before Old Man Winter makes his presence felt again.

Enjoy the issue,
Andrew Moore-Crispin
Editor-in-Chief



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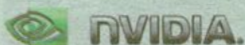
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\$1259⁰⁰

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- ✓ Antec Three Hundred chassis
- ✓ PC Power & Cooling supply

\$1719⁰⁰

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Package as listed (#Q64424) **\$1719.00**

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ML2571n (printer/25ppm/1200dpi/lan)	141 ⁹⁵
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CLP300 (colour/17ppm/600dpi)	144 ⁹⁵
SCX-4521f (laser, printer, fax, copy)	164 ⁹⁵
CLX2160 combination colour printer, colour scanner, and colour copier	242 ⁹⁵

HEWLETT PACKARD

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CP1515n (lan/colour/12ppm/600 dpi)	305 ⁹⁵
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HP Ipaq 110 (Pocket PC/WiFi)	274 ⁹⁵
HP 310 (3.5" Pocket GPS System)	327 ⁹⁵
HP Enterprise 210 (Pocket PC/WiFi/M6)	362 ⁹⁵
Asus R300 (3.5" GPS Multimedia System)	169 ⁹⁵
Asus P527 (Q8 Phone/WiFi/GPS/Mobile 6)	498 ⁹⁵
Palm Z22 (Pocket Organizer)	115 ⁹⁵
Palm E2 (Pocket Organizer)	200 ⁹⁵
Palm TX (Pocket Organizer/WiFi/Bluetooth)	299 ⁹⁵
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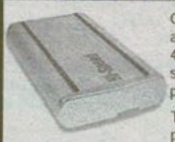
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PA03360-B512 441⁹⁵

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Apple OS X Complete Kit

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- ✓ Includes Adobe Acrobat
- ✓ Simple to use

intel PROCESSORS AMD

LCD TELEVISIONS

VIEWSONIC NX1932W 19" TV. 720p support

1440x900 res. ATSC tuner 319⁹⁵

VIEWSONIC NX2232W 22" TV. 720p support

1680x1050 res. ATSC tuner 402⁹⁵

SAMSUNG 225ms 22" TV. 720p support

1680x1050 res. No tuner 378⁹⁵

VIEWSONIC N2635W 26" TV. 720p support

1366x768 res. ATSC tuner 535⁹⁵

VIEWSONIC N3235W 32" TV. 720p support

1366x768 res. ATSC tuner 652⁹⁵

VIEWSONIC N3735W 37" TV. 720p support

1366x768 res. ATSC tuner. DNX 751⁹⁵

VIEWSONIC N4285p 42" TV. 1080p support

1920x1080 res. ATSC tuner 1125⁹⁵

VIEWSONIC N4785p 47" TV. 1080p support

1920x1080 res. ATSC tuner 1393⁹⁵

NETWORKING

WIRELESS ROUTERS/AP

TP-Link Wireless Router WR642g (G108) 30⁹⁵

TP-Link Wireless Router WR941nd (N300) 59⁹⁵

Dlink Wireless Router DIR-655 (N300) 110⁹⁵

Trendnet Wireless Router 631brp (N300) 95⁹⁵

Linksys Wireless Router WRT160N (N300) 89⁹⁵

Linksys Wireless Router WRT310N (N300) 117⁹⁵

WIRELESS ADAPTERS

TP-Link Wireless PCI Card WN651g (G108) 24⁹⁵

TP-Link Wireless USB WN620g (G108) 24⁹⁵

TP-Link Wireless USB WN821n (N300) 33⁹⁵

TP-Link Wireless PCI Card WN851n (N300) 34⁹⁵

Trendnet Wireless PCI Card 423pi (G54) 28⁹⁵

Trendnet Wireless USB 424ub (G54) 28⁹⁵

Trendnet Wireless USB 624ub (N300) 67⁹⁵

Linksys Wireless USB WUSB54G (G54) 60⁹⁵

Linksys Wireless USB WUSB600N (N300) 75⁹⁵

Trendnet Wireless PCI Card 623pi (N300) 67⁹⁵

Dlink Wireless PCI Card DWA-542 (N300) 68⁹⁵

Dlink Wireless USB DWA-130 (N300) 59⁹⁵

Dlink Wireless Cardbus Extreme DWA-642 (N300) 59⁹⁵

WIRED ADAPTERS

Trendnet 10/100/1000 Card TEG-PCITXR (PCI) 17⁹⁵

SWITCHES

Trendnet Switch 8port 10/100/1000 TEG-S8TXE 62⁹⁵

SMC Switch 8port 10/100/1000 SMC-GS8 62⁹⁵

3Com Switch 8port 10/100/1000 3C-GS08 72⁹⁵

Cisco Switch 8port 10/100/1000 S2008 81⁹⁵

Dlink Switch 16port 10/100/1000 DGS-1016D 168⁹⁵

Dlink Switch 24port 10/100/1000 DGS-1024D 187⁹⁵

Trendnet Switch 16port 100/1000 TEG-S160TX 179⁹⁵

Trendnet Switch 24port 100/1000 TEG-S240TX 232⁹⁵

CAPTURE CARDS

Asus P1731 Tuner with remote. MCE. PCI 43⁹⁵

HAUPPAUGE 150 for Vista. PCI 67⁹⁵

HAUPPAUGE HVR-950Q external USB HD/Digital

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INTEL

Pentium Dual Core

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2.20Ghz (800 Mhz, 1mb, E2200) 87⁹⁵

INTEL Core2Duo Dual Core

2.40Ghz (800Mhz, 2mb, E4600) 138⁹⁵

2.70Ghz (800Mhz, 2mb, E4700) 166⁹⁵

2.53Ghz (1066Mhz, 3mb, E7200) 138⁹⁵

3.00Ghz (1333Mhz, 6mb, E8400) 187⁰⁰

AMD

Athlon X2 Dual Core

2.44Ghz (1066Mhz, 8mb, Q6600) 211⁹⁵

2.50Ghz (1333Mhz, 6mb, Q9300) 289⁹⁵

2.66Ghz (1333Mhz, 12mb, Q9450) 348⁹⁵

2.83Ghz (1333Mhz, 12mb, Q9550) 359⁹⁵

3.00Ghz (1333Mhz, 12mb, Q9650 Ext) 1099⁹⁵

3.20Ghz (1600Mhz, 12mb, Q9770 Ext) 1633⁹⁵

AMD Athlon64 X2 Dual Core

4600 Athlon X2 (2.4Ghz, 1mb, AM2) 72⁹⁵

5600 Athlon X2 (2.8Ghz, 2mb, AM2) 99⁹⁵

AMD Athlon64 X2 Tri Core

8450 Phenom (2.1Ghz, 3.5mb, AM2+) 116⁹⁵

AMD Athlon64 X2 Quad Core

9550 Phenom (2.2Ghz, 4mb, AM2+) 162⁹⁵

MOTHERBOARDS

FOR INTEL PROCESSORS

Asus P5N-EM-HDMI NF7100 C2D 83⁹⁵

Msi P6NGM-FH NF7100 45nm 1333mhz C2D 88⁹⁵

Asus P5K-SE P45 45nm 1333mhz C2D 96⁹⁵

Asus P5E-VM-D0 Q35 45nm 1333mhz C2D 130⁹⁵

Asus P5Q P45 w/RAID 45nm 1333mhz 145⁹⁵

Asus P5E-VM-HDMI G35 w/RAID 45nm 1333mhz 150⁹⁵

Asus P5N-D T50 w/RAID 45nm SLI Compatible 150⁹⁵

Asus P5Q-E P45 w/RAID 45nm Crossfire Compatible 173⁹⁵

Asus P5E-WS-PR X38 45nm 1333mhz C2D 290⁹⁵

Asus P5N-T-DX T80 45nm 1333mhz C2D 225⁹⁵

Asus STRIKER2 Extreme 790 45nm 1800mhz 471⁰⁰

Intel DG31GL G31 w/RAID 45nm C2D 68⁹⁵

Intel DP431TF P43 Firewire & eSATA 45nm 1333mhz C2D 110⁹⁵

Intel DG45ID G45 w/RAID & eSATA 45nm 1333mhz 130⁹⁵

Intel DG33TLM G33 w/RAID & video 45nm 1333mhz 144⁹⁵

Intel DG45FC G45 w/RAID 1TB Form Factor w/RAID 177⁹⁵

Intel DP45SG P45 w/RAID 45nm Crossfire Compatible 173⁹⁵

Intel DX48BT2 X48 DDR3 w/RAID 45nm 1800mhz C2D 303⁹⁵

FOR AMD PROCESSORS

Asus M2A-VM NF6000 6000 AM2 for Athlon 73⁹⁵

Asus M3A NF6000 AM2+ 770 for Phenom 96⁹⁵

Asus M3A32-MVP-WF NF6000 7200X AM2+ 240⁰⁰

Asus M3N-HT-DX-MP NF6000 7800 AM2+ 262⁰⁰

SCANNERS

Canon Lide25 Photo 1200X2400 63⁹⁵

Epson V200 Photo 4800X9600 88⁹⁵

Epson V350 Photo 6400X9600 122⁹⁵

Epson V500 Photo/Neg 6400X9600 231⁹⁵

Epson V750-M Photo 6400X9600 1394/676⁹⁵

HARD DRIVES 2.5"

SEAGATE EIDE (PATA)

160GB (ST9160821A) 5400 RPM 5years 67⁹⁵

SEAGATE SERIAL (SATA)

80GB (ST980825AS) 7200 RPM 5years 99⁹⁵

160GB (ST9160821AS) 5400 RPM 5years 65⁹⁵

250GB (ST9250827AS) 5400 RPM 5years 73⁹⁵

200GB (ST9200420AS) 7200 RPM 5years 83⁹⁵

320GB (ST9320421AS) 7200 RPM 5years 97⁹⁵

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Seagate 160GB (ST3160815A) 8mb 5years 54⁹⁵

WD 250GB (WD2500AA) 8mb 3years 63⁹⁵

WD 320GB (WD3200JB) 8mb 3years 96⁹⁵

SEAGATE SERIAL (SATA3)

80GB (ST380815AS) 8mb 5years 42⁹⁵

160GB (ST3160815AS) 8mb 5years 48⁹⁵

250GB (ST3250410AS) 16mb 5years 57⁹⁵

320GB (ST3320620AS) 16mb 5years 66⁹⁵

500GB (ST3500320AS) 32mb 5years 74⁹⁵

500GB (ST3500320S) Enterprise 99⁰⁰

750GB (ST3750330AS) 32mb 5years 119⁹⁵

1000GB (ST31000340AS) 32mb 5years 158⁹⁵

1500GB (ST31500341AS) 32mb 5years 214⁹⁵

POWER SUPPLIES

ACE

Performa 350/450/520 watts 38⁹⁵/58⁹⁵/64⁹⁵

ANTEC

TruePower 430/650 watts (7/5/4/3) 65⁹⁵/102⁹⁵

Quattro 850/1000w (sl/cf) 172⁹⁵/205⁹⁵

Signature 650/850w (sl/cf) 188⁹⁵/249⁹⁵

OCZ

GameXstream 700/850w (sl/cf) 123⁹⁵/166⁹⁵

PC Power and Cooling

Silencer® Quad 750w (sl/cf) 134⁹⁵

SPI (for 2U Racks) 350w 39⁹⁵

OPTICAL DRIVES

Pioneer (DVR-116) 20x +20x -10x DL 33⁹⁵

Liteon (20A4P) 20x + 20x - DL 30⁹⁵

LG (GH22N) 22x +22x - DL 30⁹⁵

Pioneer (DVR-215) 20x SATA DL 35⁹⁵

Liteon USB DVD RW slim external kit 75⁹⁵

Liteon (DH-401S-11) Blu-Ray reader 122⁹⁵

LG (H20L) Blu-Ray/HD player+DVD RW 149⁹⁵

Pioneer (2202) Blu-Ray player+DVD RW 129⁹⁵

LG (GBW-H20L) Blu-Ray writer 245⁰⁰

LaCie External Blu-Ray writer PC/MAC 698⁹⁵

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The Feed

from www.hubcanada.com

Breaking News:

Globalive Opens Up for Suggestions

By Kevin Freeman

Imagine being able to tell your wireless telephone service provider what you wanted in a company before you signed up, and actually have them listen. That's what Globalive Wireless Management Corp is letting you do. Globalive has set up a website that allows would-be customers to share their thoughts, opinions, and ideas about wireless service.

www.hubcanada.com/feed/448

Harping About Harper, in Song!

By Matt Smith

If you browse the new Canadian website Mashline.com, you might hear an odd little song. The lyrics are as follows:

"You're good for our economy, prosperity for you and me, tax cuts and incentive forms, they make me warm. You're not that far to the right, you're right here at my side. You can Harper me tonight..."

www.hubcanada.com/feed/469

Get Some Skin at MyTego.com

By Matt Smith

When it comes to selecting a skin for your cell phone or any handheld device, it seems the selection is limited. That has recently changed however, with a company called MyTego. Winnipeg-based MyTego is providing an online service where

customers can create vinyl material skin covers for cell phones, laptop computers and even game consoles.

www.hubcanada.com/feed/470

Students Create and Launch VoteEducation.ca

By Matt Smith

In the upcoming election, do you ever wonder what political party will strive to cut down the cost of education in Canada? If so, you'll know soon enough with the launch of VoteEducation.ca. Created by the Canadian Federation of Students, VoteEducation.ca will focus on post-secondary education and research issues.

www.hubcanada.com/feed/477

Founder of .CA Domain Receives Recognition

By Matt Smith

Do you ever wonder how the Canadian web domain .ca was created or how long it's been around for? As history would have it, the top-level country domain was created solely by John Demco, co-founder and director of Webnames.ca, more than 20 years ago. Because of his efforts, Demco will now be honoured by the University of British Columbia (UBC) for creating the .ca country code for Canada and managing it on a volunteer basis for more than 10 years.

www.hubcanada.com/feed/473

The First World War is now Online

By Dorian Nicholson

A new online resource on World War One has recently been created in order to better inform Canadians and others of the role we played in "the war to end all wars," lest we forget. The website, entitled Canada and the First World War, was launched thanks to the Canadian War Museum with the help of the Department of Canadian Heritage as part of their Canadian Culture Online initiative.

www.hubcanada.com/feed/465

Featured Articles:

ShopRepair: One Way to Keep iTunes Playing

By Dorian Nicholson

Technology is a beautiful thing, it really is — except when it stops working for you. In the age of hyper-connectivity, where people have four or five digital ways to keep in touch with each other's actions and whereabouts, having your PDA or smartphone break down is disastrous. And having an MP3 player break down can leave you feeling deprived, with no other option than to listen to the garbage coming out of the next guy's earphones.

Whether one of these gets dropped off the edge of a dock into the water, dropped off of the edge of a dock onto a sharp bed of rocks, or whether it just dies from internal battery failure, these are two pieces of equipment that generally need to be replaced as soon as they break down.

That's why, fortunately for owners of the iPhone brand of smartphones or the signature Apple iPod line, there is a new way to get these devices back in working order again, and it goes by the name of iShopRepair.ca.

Read the full version, only at:

www.hubcanada.com

Zune Launches New Lineup with More Features

By Dorian Nicholson

Audiophiles and media junkies may remember a certain device unveiled by Microsoft almost three months ago which was rumoured to be a worthy competitor to Apple's fantastically popular iPod line of products.

The device, known as the Zune, made a splash here in Canada roughly a year and a half after the first models began to make their way out to American consumers. The new brand of media players hit the ground running with a unique image, brand new software, a diverse range of products and unique features such as Wi-Fi wireless syncing with computers and other Zunes.

However, perhaps due to a lack of persistence in marketing or because of the already established iPod line dominating the market, the Zune failed to pick up the steam it needed to reach even ground with the Apple products. And for a device that flaunts its social capabilities, market saturation is key to making growth exponential. So, with that idea in mind, Microsoft is trying to breathe a bit more life into its sleek and stylish Zune line with several new models and new features, including games.

Read the full version, only at:

www.hubcanada.com

Compiled by Dorian Nicholson

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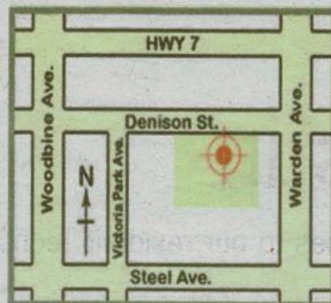
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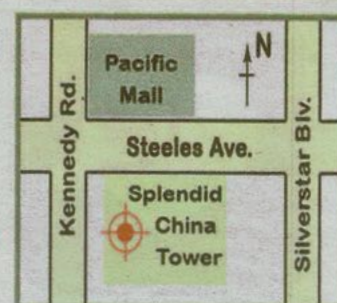


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The Doctor is in

Here's your chance to send your PC woes to our resident Techspert, the HUB PC Doctor

Hi Doc,
I have a Lite-On brand internal DVD burner in my computer I've had for a year now. The problem I am having is that when I put a DVD inside, the drive does not read it. After I put a DVD inside it makes four or five clicking sounds and then it stops. Do you think I need a new DVD burner or is there some other solution?
Paul B.

Hi Paul,
It sounds like either the motor or the tracking guide for the laser on your DVD burner is having problems. While it may be possible to have the drive repaired, it probably isn't worth going to the effort or expense as you can purchase a new one for \$30 at most computer hardware retailers.
If you aren't comfortable installing the drive yourself, the labour shouldn't cost more than \$20.
If you are going to replace the drive yourself check to see if the current burner is connected via a SATA cable or IDE cable and get the a drive with the same connection type to ensure compatibility with your motherboard.

Dear PC Doctor,
My ISP is Bell Sympatico and whenever I launch my Explorer browser it starts up and then disappears immediately. I have to restart the browser about 10 times before it finally stays on. What could be causing this problem?

P.S. This situation does not happen on my other basement computer, so I'm beginning to suspect a conflict with something else on my PC.

Thanks,
Nevstar

Hi Nevstar,
What you're experiencing sounds like a software issue either with Internet Explorer or a third party add-on it is using. Microsoft has a knowledge base article on how to disable third party add-ons here: support.microsoft.com/kb/298931
If, after following those instructions you continue to have the same issue try to download Firefox — available for free — here: www.getfirefox.com and see if you don't have better luck.
Use Firefox to download software to scan for spyware, and viruses by doing the following:

Online Scanner:

- Trend Micro HouseCall - Performs an online scan of your system to determine if your computer is infected by spyware or viruses. Available at: housecall.trendmicro.com

Spyware Scanning and Removal:

- Spybot Search and Destroy - A spyware scanner and removal utility. Available at: www.safer-networking.org/en/index.html

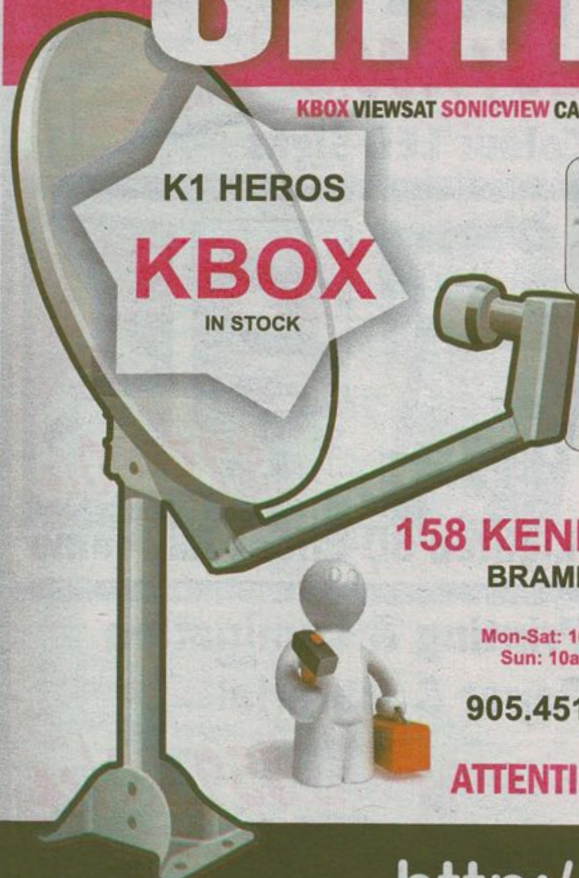
- SUPERAntiSpyware Free - The free version will scan and remove spyware that is infecting your computer: www.superantispyware.com

- Lavasoft Ad-Aware 2008 Free - A spyware detection and removal utility: lavasoft.com/products/ad_aware_free.php

- Microsoft Windows Defender - A spyware and malicious software detection and removal utility. This utility provides real-time protection which means it will detect spyware as it is accessed on your computer or the Internet. Available at: microsoft.com/athome/security/spyware/software/default.msp

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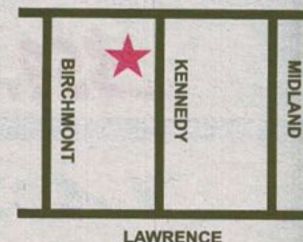
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Available at: free.grisoft.com/

Most anti-spyware and anti-virus scanners use a definition database to detect unwanted software. The files on your computer are compared to the definition database and if they match are then flagged as spyware or a virus. For this reason it is important that you ensure you have updated your software and definition files prior to starting a scan, otherwise new threats may not be detected. With the exception of Trend Micro HouseCall, Microsoft Windows Defender, and AVG Free you will have to update the above mentioned software manually. Many people run several different spyware scanners on the same computer to ensure better coverage in the event of an infection. While this may not be necessary, it does make it less likely that you'll miss something while scanning. Once you have used the utilities to clean your computer you should continue to update them and scan your computer weekly.

Dear Doc,
I've been computing for eight years and have a Microsoft XP Home Edition system which ran quite satisfactorily until now.

After establishing a connection and opening Internet Explorer instead of my home page popping up, the window remains blank and after a while the words "not responding" appear. The window also freezes. After hitting Ctrl+Alt+Delete and getting through several End Task dialogue boxes, the second try to open Internet Explorer with the favourite is successful. I have downloaded all Microsoft Updates without improvement.

I would much appreciate receiving your advice with regard to this malfunction.

Yours truly,
Z. L. S.

Hi Z. L.,

From your description of the problem you are experiencing it sounds like Internet Explorer is trying to detect proxy settings, or contact a proxy server, and failing.

Microsoft has a knowledge base article that has instructions you can follow to hopefully resolve this issue. It is available here:

support.microsoft.com/kb/220902

If that fails to resolve your issue you can try disabling third party add-ons for Internet Explorer by following the instructions here:

support.microsoft.com/kb/298931

Presently I recommend using Firefox for browsing websites as it tends to have fewer of these types of issues, is more customizable, and if things do get

broken you can easily uninstall and re-install it to resolve your issue.

Firefox is available for free here: www.getfirefox.com

Dear HUB PC Doctor,

I seemed to be having some printing glitches (HP Laserjet) and reinstalled the printer driver online. The problem persists, except that it works once in a while. When I press OK to print the Save-As window pops up. I may have missed something in the install. Or is there another issue here?

Thank you,
Lance

Lance,

It sounds like the printer drivers are installed, but your default printer is set to Microsoft Office Document Image Writer, or something similar. The Document Image Writer allows you to print your documents to an unmodifiable image file, providing you with a soft copy of your document.

To change your default printer follow these steps:

1. Click on the Windows Start menu, then click on Printers and Faxes
2. A window will appear listing all the printers that are currently installed on your system. Right-click on the icon for the printer you want to set as the default printer. A menu will appear.
3. Click on "Set as Default Printer".

Simon Bolduc is the HUB PC Doctor. Questions, comments and queries can be sent to pcdoc@ppublishing.ca

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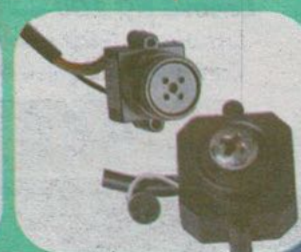
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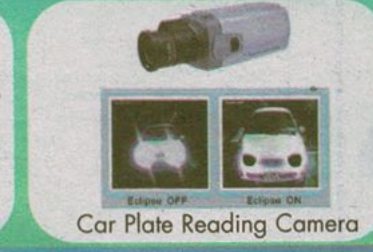
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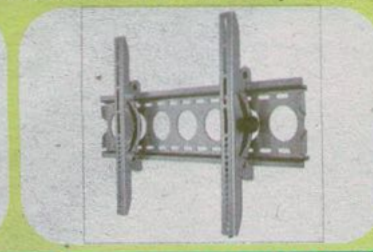
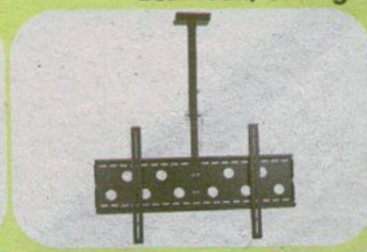


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Safeguarding Your Notebook

How to prepare for the worst before it happens

As a piece of advice for when I was going out somewhere, my Dad would always tell me: "Never carry more than you can afford to lose."

It's a good piece of advice, and I try to follow it in case anything should ever go wrong — in case I lose something or it gets stolen — but it's still a difficult rule to follow all of the time.

It's an especially hard piece of advice to heed for laptop owners, who break that rule every time that leave the house with laptop in tow.

A laptop, while a significant expense, is relatively easy to replace if lost or stolen. However, the precious data said lost or stolen laptop contained might not be so easy to retrieve.

We'll say it again: an easy to follow backup routine should be considered a necessity. Still, it would be much easier and cheaper if you could just get your erstwhile laptop back instead of replacing it and relying on backup discs.

Aside from just getting your data back, consider the sensitive nature of personal or company data that resides on your laptop.

Without even getting into the specific files such as Word documents, Excel spreadsheets, MP3 files and photos — all of which are, if not irreplaceable, then at least of personal or economic value — there is also the fact that your notebook contains your browsing history. That might include memorized passwords to your Facebook account, e-mail address, and possibly even passwords to access those sites that you wouldn't want anybody accessing or knowing about (I'm talking about sites that have your personal or financial information, FYI).

So it goes without saying that it would be worthwhile to know a couple of things you can do to safeguard your data and

maybe even retrieve your computer if it disappears, or at least make it useless to whoever stole it and protect your personal or company data in the process.

BoomerangIt

~\$10 and up www.boomerangit.com

Platform: Any Tracking method: Honour system

The most passive of the products we will talk about, BoomerangIt's anti-theft labels are designed not to instill fear into the hearts of thieves, but to help computer owners to get their gear back if lost.

The company has been in existence since 1998, although at that time its focus was on returning lost or stolen bikes to their rightful owners. Since 2002, however, the company has been helping to reunite owners with virtually any lost product thanks to their BoomerangIt line of products.

The concept is simple: buy a BoomerangIt label and affix it to your computer, then register the label's number on the BoomerangIt registry. That's it. Easy.

If a product is found with one of the trademark labels on it, the person who found it can log onto the BoomerangIt website in order to notify the owner. The finder pays nothing to have the product returned, while the owner pays shipping and may also choose to issue a reward.

Contacts that BoomerangIt has established with the police and insurance companies help to speed up the returning of various products and also give BoomerangIt a good reputation.

The cheapest of the packages offered at BoomerangIt starts at around \$10 for one label and a registration, which lasts ten years.



There are a couple of downsides to this security method though, the primary of which being that your computer won't exactly be secure. The labels are non-removable (as good as sticker labels get) but won't prevent any thief from accessing your computer. Also, the labels may act as a deterrent, but won't keep a computer off of the black market, so this product relies fairly heavily on the honour system and is most useful for when a good Samaritan finds your lost laptop.

Adeona

\$0 adeona.cs.washington.edu

Platform: PC, Mac, Linux Tracking method: Connect-the-dots

A free open source program for tracking and returning laptops, Adeona was developed by American students from the Universities of Washington, San Diego and California Davis.

The program is a fairly low-level example of laptop tracking software, software that can be used to keep tabs on where your computer is even if it isn't in your possession.

It does this by tracking data when logged on to the Internet and storing certain information about how the computer is connected. This information includes the computer's own IP address, the external IP address of the access point, any nearby routers that are detected as well as the name of the access point that the computer is connected to.

Also, if you're a Mac user and have iSightCapture (which is freely available online) then your computer will also be able to take an image of whoever is using your computer once it is connected and file this with all of the other information.

All of that data can be retrieved remotely through another computer by using Adeona's retrieval system and inputting the unique password that was used in the initial Adeona install.

This program is unique in that it doesn't rely on any third party or central service — which, while good, can also be a bad thing. On the one hand, the program is open source so the security functions can be openly analyzed, and no third party has the goods on where your computer is or what you are doing.

On the other hand, the software is easy to remove, as stated in Adeona's FAQs. The software is not embedded into the BIOS, so an OS reinstallation, a hard-drive format or a change of hard discs will completely remove Adeona.

Adeona's method of locating a computer is more of a connect-the-dots approach but will help the authorities once you contact them, especially if you're a Mac user with a picture of the culprit.

GadgetTrak

~\$30 and up for one year www.gadgettrak.com/

Platform: PC and Mac Tracking method: Detailed network analysis

Previously only available to Mac users, this software is now available for PC users as well. Unlike Adeona, this software has various security measures that it uses in order to ensure that it is difficult to remove from the computer.

GadgetTrak's program has been developed to be persistent, in that it will survive a disk wipe and will be discreet enough to not make itself known to anyone tampering with the laptop.

All of the files included in the installation and running of GadgetTrak are hidden from view, and the program can neither be detected nor removed without administrative privileges as well as the original program with an authorization code. The hard drive

can also not be formatted without the same information.

This may pose a bit of a conundrum as it would show that there is a program operating in the background preventing normal hard disc actions, but by this point it might already be too late for would-be thieves.

Once alerted to the theft, every time the computer is moved and connected to the Net, location and network information are discreetly sent to the rightful owner via e-mail. This data includes the same network configuration information as Adeona (and video for Mac users with webcams) with the added bonus that GadgetTrak claims to be able to pinpoint the location anywhere in the world, rather than just following a cookie crumb IP trail.

Also, for about \$65 customers can purchase the Search and Destroy edition, which, going with the "if I can't have it no-one can" belief, gives users the ability to wipe pre-selected files off of the computer upon connection to the Internet.

The OS and GadgetTrak will remain in order to keep the possibility of retrieving the computer.

To Conclude

BoomerangIt, Adeona and GadgetTrak are just a few examples of laptop recovery and, in some cases, data-destroying programs available should your laptop grow legs. The level of protection your computer needs is decided by the value and sensitivity of the data your laptop contains. Anytime a laptop is lost or stolen, the replacement price is only part of the story. And it's always better to secure your precious PC against loss or theft than it is to track it, trace it or wipe it after the fact.

If all else fails, you could try the tested and true method of using SuperGlue or MightyPutty to secure your laptop to your desk. Sure, it makes your portable PC considerably less mobile, but any thief trying to steal it would not only look mighty silly trying to do so, he'd also be really easy to catch.

By Dorian Nicholson



BoomerangIt label

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Biometrics for Home or Office

Securing your PC with a fingerprint

A recent trend saw biometric fingerprint readers being inserted into the bezels of just about every mid-range and high-end notebook that was released from about 2005 on. If you made a recent purchase, there's a good chance you have one of these fingerprint reading strips sitting somewhere on your notebook.

Recently, these biometric fingerprint readers have started to be replaced by webcams mounted in the upper bezel of the notebook screen that, along with connecting you with friends and relatives across the miles (I supposed you could also flash complete strangers in various seedy cam-enabled chatrooms but this is a family publication) also allows you and other authorized users no-touch access to personal user accounts. By taking a 3D facemap and associating it to a certain user account on a Windows Vista PC, all users have to do is sit in front of the webcam, wait a couple of seconds while it crunches data and then you're in. No passwords, no finger swiping and no hassle.

With either a fingerprint- or face-reading security solution, it's easy for authorized people to access your portable PC but difficult for other unauthorized would-be users.

But what about the desktop?

The broad acceptance of biometrics in laptop PCs has brought similar desktop PC-based solutions back to the forefront. While there are few manufacturers making desktop biometric solutions, they are still readily available at retail. That said, the manufacturers, with a couple of exceptions, target business and enterprise markets where the need for good security is more poignant and more readily understood than it is with the general computer-using public. Consumer-only solutions like Microsoft's aptly named Fingerprint Reader don't make the data security claims that some other dedicated solutions do. Instead, they sell based on ease of use and on the fact that

you can access your PC, any password-protected functions and your favourite web sites with just a quick fingerprint scan.

Word to the wise

A security solution, like a chain, is only as strong as its weakest link. It's important to note that even the most security-conscious biometric solution is only as effective as the password users set for the thing. Biometric security solutions can be bypassed with a password, by registering an otherwise unauthorized fingerprint or by simply disabling the software. Using best practices for creating strong and difficult to crack passwords is among the easiest and most important steps when setting up your new biometric security solution.

Microsoft Fingerprint Reader

\$30 - \$40 www.microsoft.ca/hardware

Pros:

Simple to use

Attractive

Available integrated into a keyboard

Cons:

Passive scanning

Less secure than some

Microsoft's Fingerprint Reader is available as a small pod that sits beside your existing keyboard and mouse setup and connects to your PC via USB or integrated into a regular-sized USB keyboard from Microsoft Hardware. As the overall quality of Microsoft keyboards is generally excellent and given that it means one less USB cord snaking to the PC tower, we'd opt for this solution if we didn't already have a keyboard we were particularly attached to.

The Fingerprint Reader consists of an oval of glass ringed with a slight red light a bit larger than your thumb. Once fingerprints are registered, all you need to do is slap down a pre-indexed finger (index or otherwise) and the pod does the rest. When logging in to Windows, that's all there is to it. If you're looking to log in to a website that's been registered with the DigitalPersona Password Manager 2.0 software, the same procedure will populate both the user name and password sections of the site. The included software prompts for a fingerprint whenever you navigate to a password-protected web site that is registered with the software.

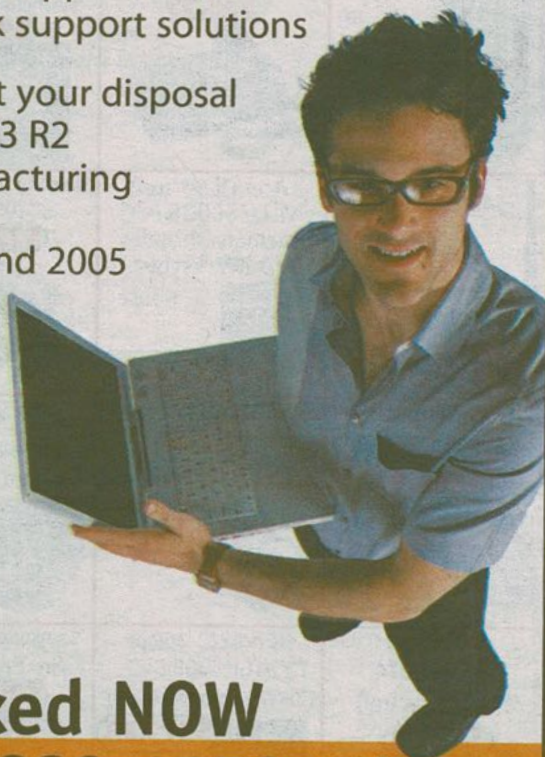
Microsoft's Fingerprint Reader does not make any lofty security claims. In fact, it's best viewed as a convenience on your desktop for one-swipe access to your Windows account and less sensitive password protected websites with which you have an account. The documentation that comes with the Fingerprint Reader and the Microsoft Hardware website both explicitly state that it's not designed for use with online banking client numbers and passwords or other such highly-sensitive information: "Should not be used as the only means to protect sensitive data like

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APC Touch Biometric Pod Password Manager

financial information or accessing corporate networks," in Microsoft's words.

An online test by several Washington & Jefferson College students in Washington, PA, (tinyurl.com/67982z) suggests that the Fingerprint Reader was the more easily fooled of the two USB biometric devices they tested. For what it's worth though, our own similar tests conducted in 2006 — though not as exhaustive — consistently failed. These students were also apparently able to fool the APC Pod device that follows.

APC Touch Biometric Pod Password Manager

\$10 - \$50 www.apc.com

Pros:

Active scanning goes below the surface
Small and simple

Cons:

Finger / thumb placement is finicky
False negatives not uncommon

APC's Touch Biometric Pod Password Manager uses a full 1 by 1-inch scanning surface which, in many ways, is much easier to use than the more common 1 by 1/4-inch solutions found on the majority of laptops sporting a biometric solution, as well as in several desktop products. With this full scanning surface, there's no need to swipe your finger or thumb across the surface. Instead, you just place the digit on the scanning surface. While this does up the overall ease of use, it also seems to make the placement of said digit more important. Tests we conducted with this solution previously allowed for less than a 1 cm tolerance up and down. The result was a few too many frustrating false negatives for our tastes.

The upshot is that this is an inherently more secure solution than the passive Microsoft fingerprint reader. Where the Microsoft solution uses imaging to determine whether the user pressing a digit against its glass surface should be allowed access to the PC, the APC solution uses AuthenTec's TruePrint sensor technology (www.authentec.com) and scans below the surface of the fingerprint for a more accurate and reliable read.

By purchasing through APC's site the Pod can apparently be had for about \$10. Even when factoring in shipping that's a hard bargain to pass up.

Zvetco Biometrics VP3400 Biometric Device

\$100 www.zvetco.com

Pros:

Small and stylish
Build quality inspires confidence
Claims to be the most secure solution on the market

Cons:

Expensive
Small scanning sensor area

The derivative title afforded the VP3400 Biometric Device from Zvetco Biometrics hints at how business-oriented the device is. No fancy titles here; this is a small and attractive USB fingerprint scanner encased in a lump of solid-feeling and weighty metal. Just the look of the thing inspires confidence for users and, ideally, the complete opposite feeling (dread, perhaps?) for would-be users who aren't authorized to access the computer it's protecting.

FingerTouch is more at home in an office where data security is of the utmost importance than connected to your standard personal computer. While the VP3400 does offer some of the same website password storing and access features and other conveniences that more consumer-skewed devices include, its focus is more

on business machines, virtual private networks and potentially sensitive corporate intranets than on personal convenience.

That said, if you keep private, personal and sensitive data on your home machine, this might be just what you've been looking for. Should your PC go missing, anyone but the most sophisticated data thief is going to give up trying to gain access before too long.

Opting for a 1 by 1-inch scanning sensor, the Zvetco Biometrics solution scans below the surface of the fingerprint, as compared with the Microsoft Fingerprint Reader which uses imaging to grant access. It can also apparently tell the difference between a finger attached to a living, breathing human being using electrical current feedback; a dead or dummy finger would not be able to conduct the small electrical charge and so would be dismissed out of hand, as it were.

In addition to the Windows PC security management software that ships with the VP3400, the fingerprint scanning pod is also available for enterprise purchase with user-specified software. Further evidence that, while there is a retail version available, Zvetco's attention is focused on bigger business applications where data security is paramount.

Roundup

These are just a few of the options for fingerprint-reading biometric security solutions.

The previously mentioned face-scanning biometric solutions that are currently in vogue for webcam-sporting laptops have also made their way to the desktop.

After-market software solutions like FaceCode as well as proprietary software bundled along with some brand name desktop PCs are also available. With just about any USB webcam and a \$30 piece of software, you could quite easily set up a similar solution at home.

While we have had hands-on time with each of the biometric fingerprint readers mentioned previously, we've yet to try out any of the webcam biometric scanning solutions mentioned and so can't vouch for them.

By Andrew Moore-Crispin

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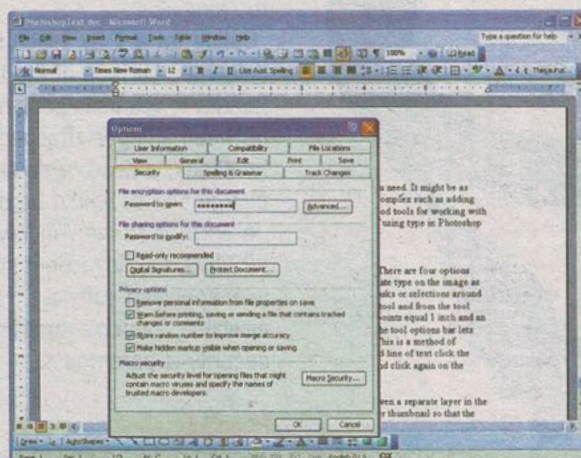
Protecting your sensitive data quickly and easily

Every organization whether big or small requires some level of document or file security. If your employees carry laptops for example, your data is at risk if the machines are stolen or lost. Security doesn't have to involve entire computers either; a single file may contain privileged or confidential information that you don't want just anybody to have access to. This month we'll look at a range of options that you have for securing the data on your computers.

Secure your laptop

One problem with laptops is the issue of securing your data if the computer is lost or stolen. The Windows Vista operating system includes a new tool called BitLocker which can encrypt the files on the disk so that the disk cannot be accessed without a USB key that has the password stored on it. This new feature is built into the two higher-end versions of Vista: Vista Ultimate and Vista Enterprise.

Until recently, using BitLocker required you to re-partition the hard drive to install it, but the new Windows Ultimate Extra release from Microsoft includes a tool for installing BitLocker which doesn't require repartitioning — the downside is that this tool is only available for Vista Ultimate users. BitLocker



Word offers a tool for securing a Word file so it cannot be accessed without a password.

encrypts everything on the computer including programs, user files, settings and Windows itself. Essentially, without the USB key, it's impossible to boot the computer — however once you insert the key the computer works just like any other running Windows Vista.

Remove your traces

The press frequently reports stories of PCs which have turned up on eBay or which have been donated to organizations and which still have the original company's data on them. Everything from sensitive company data to customer information to credit card numbers have been reportedly found on these machines.

News of this happening reflects badly on the businesses involved and customers of those businesses are understandably annoyed when it happens. If you plan to dispose of your old computers you should take care to wipe the disks clean before doing so.

Unfortunately, typical delete and disk format utilities like those in Microsoft Windows don't actually remove data from a disk. In fact, deleted files are easily recovered by anyone with a little spare time and an undelete utility, and disk data is typically not destroyed when the disk is reformatted.

A disk wiping program, such as Paragon Disk Wiper 8.5 will wipe the data off the disk permanently. It works by not only removing any reference to the file in the disk index but also by overwriting the space that the file consumed on the disk with new data. The

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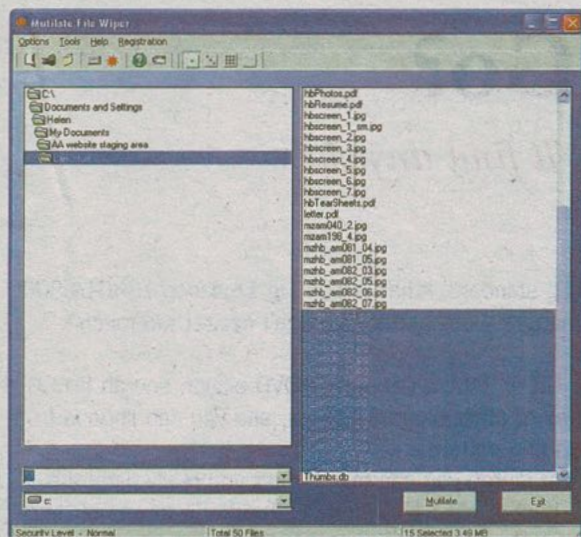
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A program like Mutilate File Wiper can permanently remove files from your disk so they can never be recovered.

program does this multiple times to remove all traces of the original data. While a license for a program like this costs ~\$30, the cost to your business of not using it or similar disk wiping software could be much higher.

Often you won't need to wipe an entire disk and, instead, you simply need to remove traces of a file that contains sensitive information but is no longer needed.

A file wiper program works in a similar way to a disk wiper program but does its work one file at a time. One recommended program is Mutilate File Wiper which costs ~\$20. It removes all traces of a file from

your disk by repeatedly writing data over the place that the file occupied on the disk.

Secure in transit

If you are transferring sensitive information via e-mail you can protect it in transit by encrypting the data. When you encrypt data the program uses a key or password to encode the file so that anyone looking at the file simply sees gibberish. Only if you have the correct password can you open and work on the file.

You should encrypt sensitive files if you are e-mailing them or storing them online. A handy encryption tool is the open source 7-Zip utility that not only archives and compresses your files but can also encrypt them using the 7z format.

Select the file or files to encrypt and click the Add button to open a dialogue which lets you configure the compression and encryption options. Select 7z as the format and type a password — the longer it is and the less you base the selection on dictionary words or common derivatives, the harder your new password will be to crack.

If you send an encrypted 7z format file to someone, you need to also give them the password to use to decrypt the file. They will need either 7-Zip or a program that can decrypt 7z format archives to get access to the data.

Use program options

If you are using a tool like 7-Zip to archive and encrypt files to store them securely on your own computer, make sure that once the files are compressed and encrypted that you remove the

originals from your disk. Programs like 7-Zip compress and encrypt files but typically leave the original files untouched.

In some cases you will need only to retain some privacy so that the file you are working on cannot be opened by anyone who is not authorized to do so. In this case check to see if the program you are using has tools for protecting the document. In Microsoft Word you can protect a document so it cannot be opened without the password.

To do this, open the document inside Word and choose Tools > Options > Security tab and type a password to prevent the document being opened. Make sure to use a password which is a good length — seven characters or more — and that contains a mixture of numbers and letters so it will be harder to crack.

There are programs readily available that can crack Word passwords so you need to use a good one. Now, when you save the file, the saved version will be protected and you will need to provide the password in future to open it.

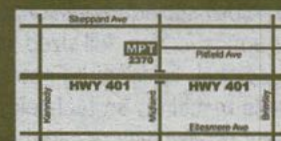
When assessing your security needs, determine what you need to secure and then work out the best tools for doing the job. It's important to not only secure your data from prying eyes within your own business but also to secure your business and customer data so it won't turn up in the wrong hands and cause damage to your business.

By Helen Bradley

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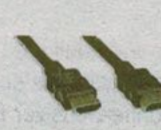
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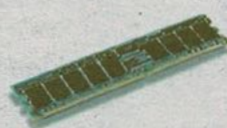
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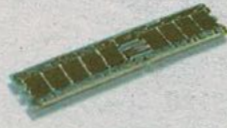
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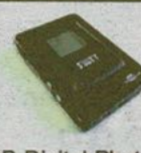
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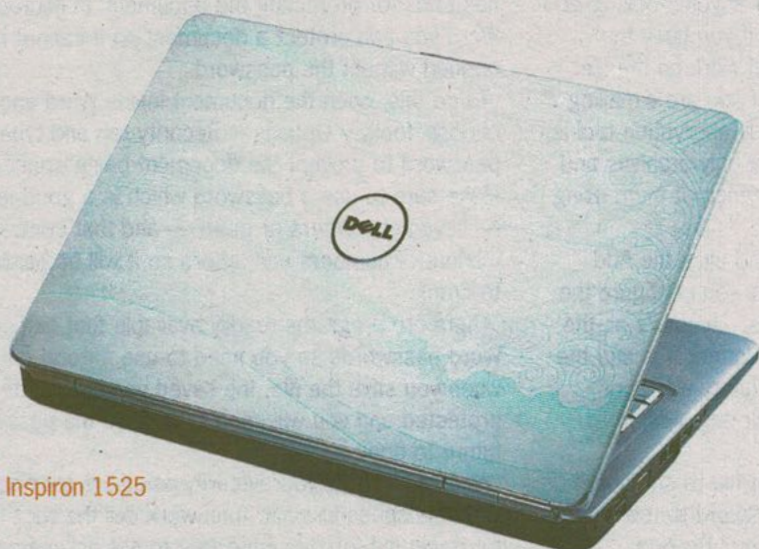
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How Low Dare You Go?

The scoop on five of the least expensive portable PCs you'll find anywhere



Dell Inspiron 1525

Laptops, once considered a computing luxury, are now the norm, outselling their bulkier desktop counterparts for the last two years. And as notebooks have increased in popularity they have steadily decreased in price. As recently as a few years ago, the average cost of a portable PC still hovered around \$1,500. Nowadays, drop by any big electronics store and you'll be hard pressed to find more than a handful of laptops with price tags in excess of \$1,000.

Indeed, the question for most budget conscious laptop shoppers these days isn't so much whether a notebook PC is affordable, but rather how inexpensive dare a person go?

Excluding the relatively new genus of the "netbook" — incredibly inexpensive (\$300 to \$500) sub-notebooks that eschew features once considered indispensable, such as optical drives, full-sized keyboards, and hard disks — there are plenty of traditional, full-featured notebooks available in the \$500 to \$700 range. But are these machines so technologically eviscerated that they won't be able to meet your basic productivity requirements?

To help find the answer we've put together a little comparison of five bargain notebooks currently available from mainstream manufacturers.

Dell Inspiron 1525 (\$499, www.dell.ca)

The cheapest traditional notebook we could find, the Dell Inspiron 1525 starts at just \$500 less a buck. Why so inexpensive? Rest assured that it's not because Dell is simply undercutting the competition. It's the only laptop in this group to feature a single-core processor — Intel's 2.0 GHz Celeron 550. In the current computing climate this is sort of like a dodo sighting as mono-core CPUs are pretty much extinct these days. It's not an ideal processing solution for the 1525's pre-installed operating system, Windows Vista Home Basic, nor is it recommended if you need to do much in the way of multitasking. What's more, the machine's built-in wireless

supports only the aging 802.11g standard. It has a nice big 15.4-inch 1280-by-800 display, but it's powered by a meagre 4-cell battery, so don't expect too much operating time.

The rest of the hardware — 1 GB of RAM, a CD burner/DVD player, and an 80 GB hard drive — runs along the lines of other bargain laptops, and you can choose from a wide selection of case colours and patterns.

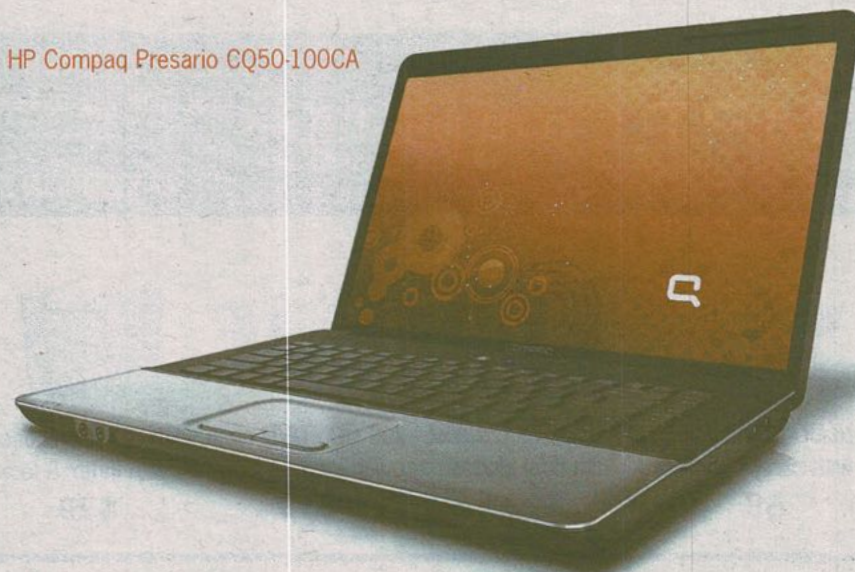
Still, it's among the lowest-power laptop you can buy. Unless you really need the optical drive and larger screen, best invest \$150 more and upgrade to one of Dell's dual-core Inspirons (or save yourself a little cash — and weight — and just go with a netbook).

HP Compaq Presario CQ50-100CA (\$550, www.hp.ca)

Fifty bucks more buys you this Compaq Presario from HP, which offers plenty of worthwhile perks, beginning with a dual-core AMD Athlon X2 processor that runs at 1.9 GHz, which ought to make running multiple applications simultaneously a little less of a hair-pulling experience. Plus, 2 GB of RAM and discrete graphics in the form of an nVidia GeForce 8200M card let the CQ50-100CA function as a (very) modest gaming machine (think Civilization III, not IV).

What's more, a boost from Windows Vista Home Basic to Home Premium adds features such as the operating system's ballyhooed Aero interface, as well as handy multimedia apps such as Movie Maker and DVD Maker. You'll also get a 160 GB hard drive, a webcam and an optical drive that burns DVDs. In other words, \$50 buys plenty. There's no choice in case styles, but that's a negligible complaint. If your budget is capped at five-and-a-half bills, you're not likely to do much better.

HP Compaq Presario CQ50-100CA



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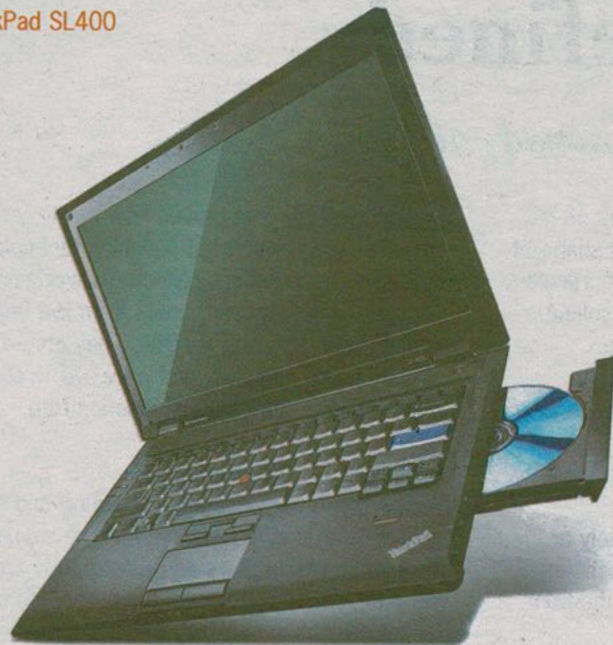
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Lenovo ThinkPad SL400



Lenovo ThinkPad SL400 (\$623, www.lenovo.com/ca/en)

Beijing-based Lenovo, which took over IBM's workplace-oriented ThinkPad laptop business a few years ago, has continued the brand's reputation for delivering reliable, no-nonsense machines, and perhaps none more so than the utilitarian 14.1-inch SL400, which was selling for \$623 at the time of writing. It's a workstation, plain and simple.

Its modest spec sheet — which lists 1 GB of RAM, a CD burner with DVD playback capability, an 80 GB hard disk, 802.11 b/g wireless, and an Intel Core 2 Duo processor running at 1.8 GHz — makes it sound like a mid-tier notebook manufactured circa 2006, though, of course, it likely would have cost twice as much back then.

But that's a good perspective to take: If your computing requirements haven't changed much over the last two years, then there's no reason why the SL400 shouldn't be adequate now.

Toshiba Satellite L300 (\$629, www.toshiba.ca)

Toshiba's least pricey Satellite, though a little more expensive than the Compaq Presario CQ50-100CA, offers essentially the same experience. It, too, flaunts a 15.4-inch widescreen display, a 1.9 GHz AMD Athlon X2 processor, 2 GB of RAM, 160 GB of storage, a DVD burner and a webcam. An ATI Radeon 3100 graphics card helps add a little punch to your movies and games.

Why spend the extra change? Perhaps because it's half a kilogram lighter than HP's machine, coming in at just 2.49 kilograms. In fact, it matches Lenovo's SL400 for the title of lightest machine in this group of budget computers. And while its soft silver case can't compete with the sleek and elegant industrial design of many pricier machines, it does have enough panache to make it stand out from most bargain bin notebooks. Ergo, if style is a factor and sore shoulders are a concern, Toshiba's Satellite L300 might be the portable PC for you.

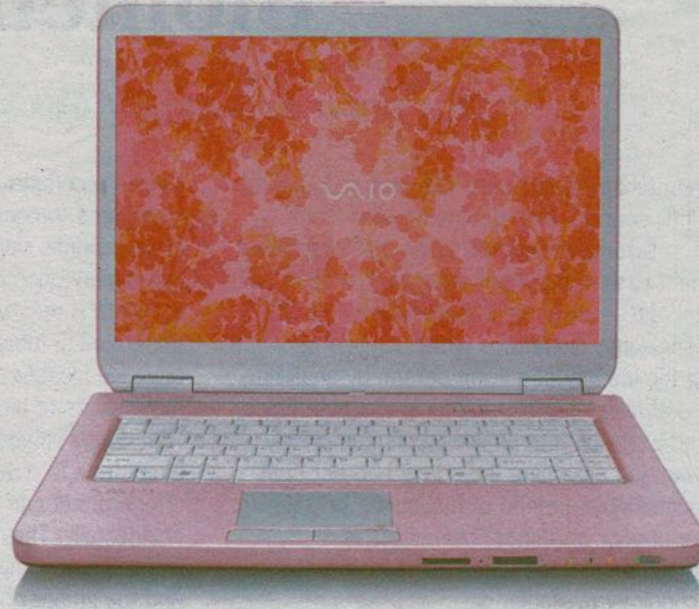
Sony VAIO VGNNR430D (\$699, www.sonymstyle.com)

Sony isn't known for offering products that might properly be called cheap, but at press time they happened to have an entry-level VAIO that managed to squeak into the sub-\$700 range we are exploring.



Toshiba Satellite L300

Sony VAIO VGNNR430D



The white, pink, and brown models in Sony's entry-level NR series are priced at \$699 and they come with respectable specs to boot. A low-cost but practical 1.86 GHz Intel Pentium dual-core processor and 2 GB of RAM will provide enough horsepower to perform ordinary productivity tasks and basic photo and music editing chores.

What's more, a DVD burner combines with the NR's bright and vivid 15.4-inch WXGA display to make this laptop suitable for casual movie viewing.

Bonus: speedy Wireless-N networking is built in. Simply put, unless you plan to use your laptop to play 3D games, make movies or record an album, the NR-series VAIO ought to satisfy your computing needs.

By Chad Sapieha

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Biometrics Defined

It's not a new weight loss scheme, and it's already all around you

Few emerging technologies have had such widespread implications or spurred such debate as biometrics.

That's not too surprising actually, given that biometrics is so pertinent to an issue that's important to all of us in this digital age — security. But what exactly is it?

Generally speaking, biometrics is the science of determining the identity of a living person by analyzing one or more of his or her physiological characteristics. Given that so much of your physiology is completely unique to you, and assuming there is a 100 per cent accurate, quantifiable method of measuring or gauging one or more of your attributes, biometrics is theoretically the most convenient, most foolproof security technology available.

One of the oldest and most common forms of biometrics, digital fingerprinting, works thusly: You scan your print under a light source — either a laser or, much more commonly, an LED — and the information generated by that scan is then stored in a CCD (Charged Couple Device, the same thing found in digital cameras) or the less expensive CMOS (Complementary Metal Oxide Semiconductor).

When a finger isn't a finger

For security reasons, the process does not save a photo or graphic image of the print itself. It instead

utilizes a complex and closely guarded series of algorithms to convert the location, size, and shape of all your print's ridges and valleys and other particulars into digital (ones and zeroes) format. The resulting template is then compared with the templates generated in future scans to make a positive or negative identification. This is a routine common to most forms of biometrics.

But digital fingerprinting, like virtually all forms of biometrics to date, isn't completely failsafe.

Fingerprints can be altered, either deliberately or accidentally. They tend to get dirty and sometimes worn, thereby impacting the appearance of the print. And the image of the print can change from instance to instance, depending on the level of pressure being exerted by the user when being measured.

A far more serious problem is that of "spoofing." Spoofing is the practice of deliberately deceiving biometrics devices by utilizing counterfeit samples. In fingerprint scanning, reports of scanner-tricking "fake fingers" made of pliable substances such as gelatin, wax or silicone have been rampant for quite some time.

Indeed, one of the most worrisome reports hails from a 2005 US Department of Defense-funded Clarkson

University study that proved how easily some optical camera-based fingerprint scanning technologies are defeated. Researchers collected several fingers from cadavers and fashioned casts from live fingers using dental materials and Play-Doh. They tested in excess of sixty faked samples, and were ultimately rewarded with a 90 per cent false verification rate.

Accolades for saccades

Yet it's these very issues — spoofing and erroneous results — that in many ways fuel the industry and keep biometrics researchers as busy as they are. One of the most topical "unspoofable" biometrics concepts in recent months is currently in development by Japanese researchers Masakatsu Nishigaki and Daisuke Arai at Shizuoka University, Japan. It's based on something called "saccades," the rapid, involuntary reflex movements of the human eyeball, and it may be just the ticket if the research team can unearth a pattern that consistently differentiates one person's saccades from another's.

Spoofable or unspoofable, biometrics is already commonplace in today's society, and the technology will be even more prevalent in the future. Facial scans, hand geometry scans, and voice authentication routines are just some of the methods currently in use.

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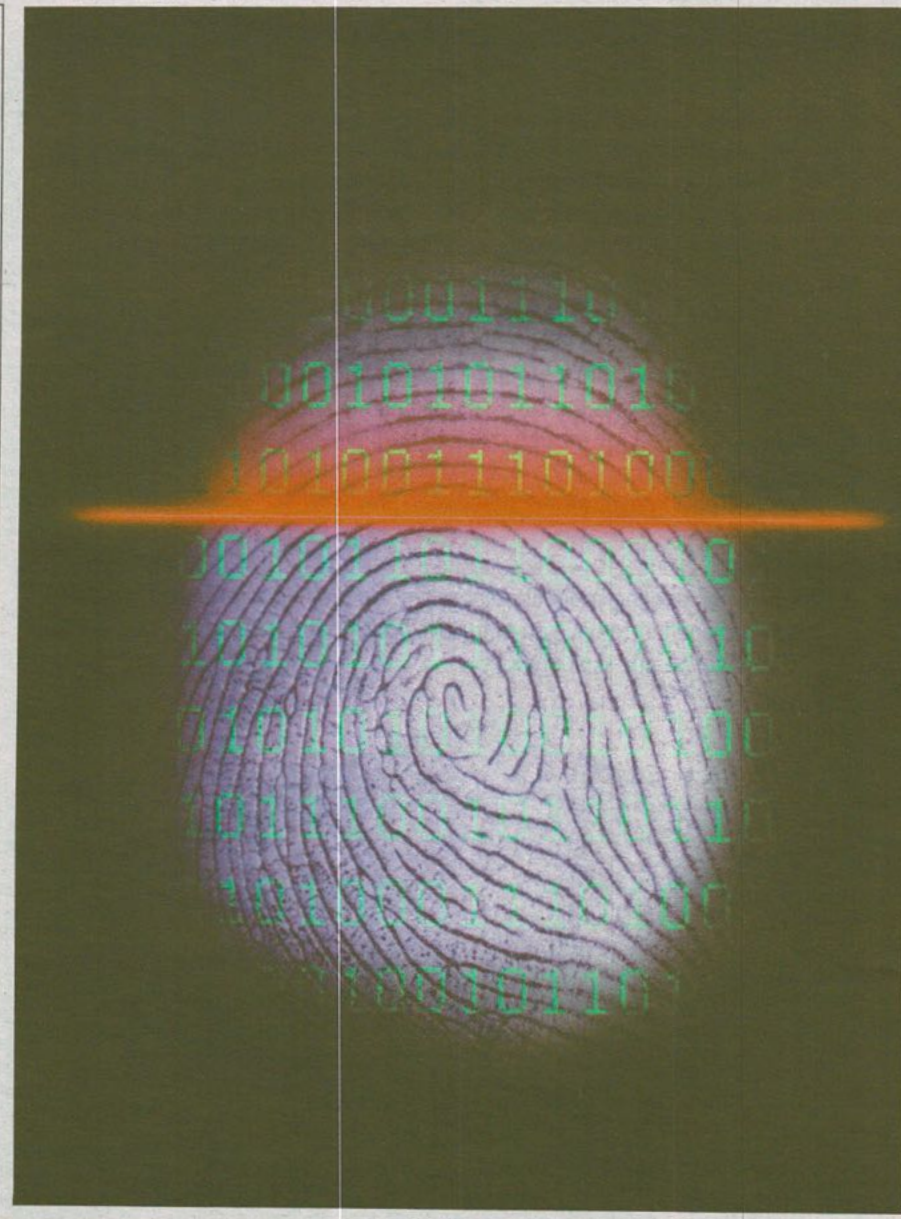
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Apply for a driver's license in some parts of the world and you may need to submit to an eye or fingerprint scan.

Passport Canada wants to introduce biometrics into passports, as do most credit card companies. Indeed, you may soon pay for retail purchases and conduct much of your interactive life with quick analysis of some portion of your physiology.

Biometrics comes home

Biometrics is already well entrenched on the personal computing front, where so much of your personal data lies waiting to be stolen. But "well established" doesn't necessarily mean "perfected."

A decade ago, when biometrics first appeared on the personal computing scene, it did so in the form of add-on devices. But there were problems. These add-on devices were often big and clumsy, and the scanning process and results weren't nearly as sophisticated as they are now.

Today, the level of sophistication has noticeably improved. Fujitsu's soon to be released PalmSecure Mouse, for example, scans not the fingerprint but the veins that lie under the skin in the palm of one's hand. It therefore cannot be spoofed by "dead" or fake hands.

That this technology is making its way to PC end users is good news all around, particularly when you

consider it had previously been available only for commercial applications such as ATM machines — and was priced accordingly.

Notebook manufacturers have recently moved toward better built-in biometric solutions than the comparatively primitive fingerprint readers of times past. Lenovo's IdeaPad laptops feature integrated cameras and facial recognition software dubbed "VeriFace."

Once the camera scans your face the first time, you need merely to sit in front of said camera again in order to log back on. Granted, facial recognition capabilities are not new to Lenovo notebooks, yet there's little doubt that the 1.3 megapixel camera in current models will do a much better job than the 0.3 megapixel camera of earlier units.

Biometrics versus passwords

That said, many biometrics-equipped notebooks still rely on fingerprint readers built upon technology that's already several years old. That's not a good thing according to many studies that show old school fingerprint readers to be a less effective and more easily defeated data safeguard than traditional passwords.

But soon, even the tiny fingerprint readers on laptops may be capable of more than merely verifying ridges and valleys. More sophisticated fingerprint readers such

as those from Zvetco Biometrics already feature "liveness detection," a process that effectively distinguishes a living finger from an inanimate imitation.

Looking ahead

Future laptop fingerprint scanners may also incorporate some form of perspiration and possibly spectral (hemoglobin, collagen, skin layer structure) measurement utilities and subsurface analysis capabilities.

Likewise, future consumer facial scanners may introduce tools for detecting and analyzing movement, and future consumer iris scanners may combat photo spoofs with built-in measures to identify dot matrices and dyes used in printing techniques. Future consumer voice authentication systems will counter pre-recorded blurbs by asking the user to repeat randomly generated words and phrases.

Biometrics is most definitely here to stay. We just may need to wait a bit for consumer-level biometrics to reach the point where our data is truly safe from the criminal element.

By Gord Goble



The Feed

from www.hubcanada.com

New Products:

Brother Announces New Printer Models for SMBs

By Dorian Nicholson

Recently Brother International Corp. of Canada revealed its latest line of printers aimed at small business users, with the first of the models now available and two less expensive models due out this month. The top of the line flagship model, the MFC-6490CW, leads Brother's new Professional Series of printers with more features and solutions for SOHO users like the ability to print and scan ledger-sized paper... www.hubcanada.com/feed/468

Dell Inspires Consumers with the Inspiron Mini 9

By Matt Smith

Dell Canada has officially launched the new Inspiron Mini 9, Dell's own version of the miniature notebooks that are growing in popularity. With a starting weight of 2.28 pounds, Dell's Inspiron Mini 9 is equipped with a sealed keyboard and a solid state drive (SSD) of up to 16 GB for data storage. For additional memory, the Inspiron Mini 9 has a remote storage space of 2 GB which is expandable to 25GB... www.hubcanada.com/feed/462

Kodak Debuts Pocket Video Camera

By Dorian Nicholson

Video sharing has grown a lot in the past several years with the exponentially expanding popularity of the social net and sites like Facebook and YouTube working in tandem to spread videos across the world. With recent product releases such as the Flip! And Creative's Vado, small one-function camcorders have hit the mainstream and Kodak is entering the fray with its HD-shooting (720p) Zi6 pocket video camera at \$180... www.hubcanada.com/feed/478

Google Chrome Sees Release

By Andrew Moore-Crispin

Apparently not content to simply deliver your search results, email, appointments, news and documents, Google prematurely announced its Chrome browser after a mail room gaffe.

At the heart of Chrome is an interesting concept that's being called "sandboxing." The idea here is that if an individual browser tab starts acting up or performs an illegal operation, just that tab can be closed down. In concept at least, this could mean an end to one rogue tab or hung Java script crashing the whole browser... www.hubcanada.com/feed/435

Olympus Cameras Evolve

By Matt Smith

Trying to out-perform their competitors with the release of a new breed of digital cameras, Olympus is taking a leap forward in digital photography with the release of the Stylus 1050 SW and the new SP565 UZ this coming fall. The 1050 SW gives the user a 10.1 megapixel resolution with a "tap control" interface that lets you turn on the flash along with other settings just by tapping the top, sides, and back of the camera. The Stylus 1050 also offers a 3x optical zoom and is expected to be for sale in October for a price at \$300... www.hubcanada.com/feed/423

Epson's Artisan Helps Professionals Print

By Dorian Nicholson

In New York this summer, Epson unveiled its new line of printers for the home and home office to be released in the Fall to members of the media. The printers, some showcasing touch screens, Wi-Fi and speedy print times, were recently released to market. The printers, Artisan models 700 and 800, each have diverse printing capabilities with the flagship 800 being more impressive for a somewhat larger price tag... www.hubcanada.com/feed/420

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Compiled by Dorian Nicholson

The Protected Home Office

Physical security for the digital times

Back in the day, we all had a reasonable worry about security. Physical security. You know, guarding against theft and crooks and accidents and fires. As well as lions and tigers and bears, oh my. But somewhere along the line, we became obsessed with digital crimes such as identity theft. Justifiable concerns to be sure, but hey, all that other stuff never went away. Bad things still happen outside your computer.

Truth is, if you have a home office you have even more reason to safeguard your belongings. Let's look at some of the ways you can do that.

One of the very best things you can do to protect your home office is to make it as inconspicuous as possible when viewed from the exterior. Keep the blinds or the curtains closed, particularly at night when it's so easy to see the contents of a well-lit room.

If you can, position your home office somewhere above street level where it won't be nearly as visible. It'll be a far less appealing target for window break-ins too. Speaking of windows, are you thinking of replacing them? If so, consider shatter-resistant laminated glass.

Join a neighbourhood watch program if there's one available in your area, and grab an indelible felt pen to mark valuables with your name, phone number, and e-mail address. Outside, make an effort to remove any visual barriers that might conceal the movements of an opportunistic burglar.

Thieves like to work under the cover of darkness, so it's only logical that they'll think twice about a home that lights up with the fire of a thousand suns when they walk by. Simple flood lamps with motion-detecting sensors are inexpensive, and setting up a number of them along the perimeter of your home is always a good idea. And always make sure your insurance coverage includes a home office. Many policies require separate riders.

Once you've followed a few basic common-sense rules and established some good habits, it's time to crank it up a notch with the latest in home and home office security.

Logitech WiLife Video Security System

www.logitech.com Prices vary depending on configuration

It's been our experience that Logitech makes damn good stuff, and we don't know why its brand new PC-based video security system would be any different. Dubbed the WiLife, it's a complete house surveillance and security solution composed of indoor and outdoor cameras, a USB receiver, and Logitech's Command Center PC software.

At \$360 for the Master System alone, which includes the receiver, the software, and just a single camera, the WiLife is a pricey proposition. The unit operates cordlessly over existing electrical wires, and according to Logitech, takes just fifteen minutes to set up. It'll call or e-mail you if and when it detects motion, and it allows you to view live video over the Internet via a WiLife account. Each component looks sleek and upscale, as does the software interface.

Something to remember: Although there's no shortage of standalone security systems available in today's marketplace, we prefer computer-based systems. Why? Because they can generally be upgraded how and when you want to do so, and because a computer display screen makes for a superb — and very convenient — visual monitoring device.

ioSafe S2

www.iosafe.com US\$6,875

The only thing worse than a fire at your residence (or a flood or an earthquake or the proverbial plague of locusts) would be losing years of accumulated data in the process. California-based ioSafe has a variety of preventative measures for just such situations.

We like the ioSafe S2 because with its one-hour, 1,700 degree F fire rating, thirty-day flood rating (at a depth of thirty feet, in freshwater or saltwater), and three-year disaster recovery service, it would seem to be a failsafe solution.

It's important to note, however, that the ioSafe S2 is intended only to safeguard two external hard drives (dual 500 GB models included). It's even more important to note

Logitech WiLife Video Security System



that high-end security such as this comes at a price. And what a price it is.

Fortunately for those who don't expect their next fire to last that long or get that hot, and are certain a flood won't submerge their data for more than 24 hours, ioSafe also provides disaster-resistant internal hard drives that cost a whole lot less (~\$330 to ~\$460).

TeleSpy Intrusion Notification System

www.telespy.biz ~\$130

It looks like one of those slimline phones from a couple of decades ago, but the TeleSpy is also part motion detector. Set it up in your home office and key in a telephone number where you can be reached when you leave the premises. The TeleSpy will call you automatically if it senses movement and allow you to listen to what's going on in your room for a full 30 seconds before disconnecting. The next step is up to you. As a bonus, the TeleSpy is available Net-wide for substantially less than its MSRP.

Dorgem 2.1

dorgem.sourceforge.net Free

We spotted this no-charge software utility in our travels around the Internet. Dorgem is an open-source webcam capture application for Windows 9x and up that's officially been discontinued but is still available for download. It'll turn your PC and webcam into a motion detection and recording security system that's garnered a lot of praise from those who have downloaded it.

Word of advice: Turn to the following link for an awesome tutorial on setting up your Dorgem system: tinyurl.com/HomeOfficeSecurity

ActiveWebCam 11.2

www.pysoft.com ~\$30

Like Dorgem but more capable and not free, Active WebCam has been a monster performer over at CNET's download.com site for a long time now, dwarfing the competition with more than three million downloads. It's easy to set up, and captures an impressive thirty frames per second from any video device including USB cameras, analog cameras, TV-boards, camcorders and network IP cameras. It will broadcast and add time stamps, support multiple cameras and send an e-mail when motion is detected.

Lenovo IdeaPad

www.lenovo.com Various prices depending on model

Elsewhere in this issue we discussed Lenovo's IdeaPad notebooks for their facial recognition biometrics capabilities. But we thought we'd mention the IdeaPad here too because the very same 1.3 megapixel camera and VeriFace software that identifies you as the rightful owner and operator of your laptop also snaps a series of quick pics of anyone who tries to access the unit while you're away. Gotcha!

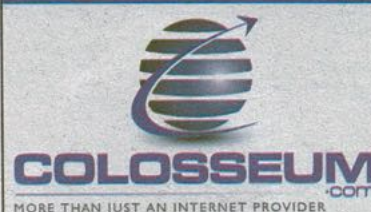
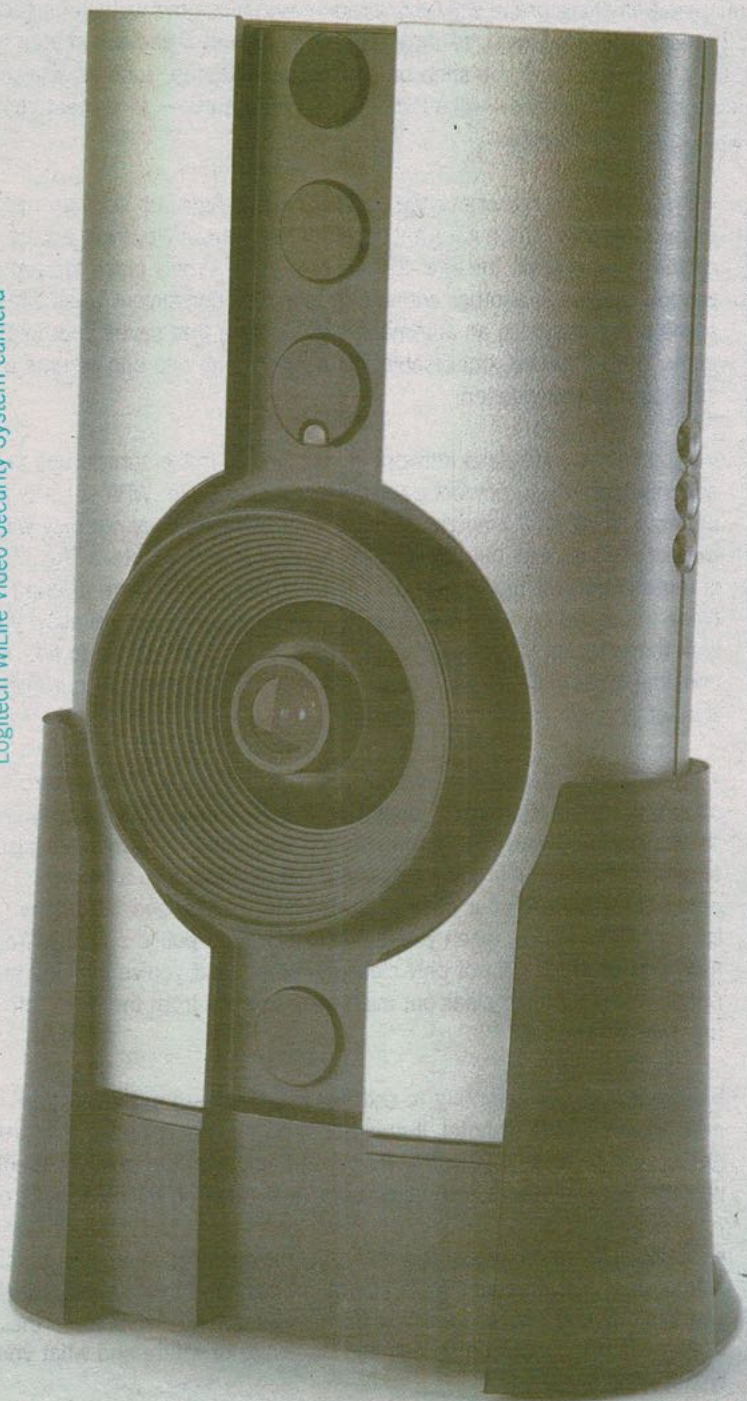
First Alert Dual Sensor Smoke Alarm

www.firstalert.com \$35 street price

Smoking isn't healthy, particularly when it's your house that's doing the smoking. Fortunately, you don't have to cough up a lung for a quality smoke alarm. The First Alert Dual Sensor Smoke Alarm scores highly in most every user survey going. Equipped with ionization and photoelectric sensors, it covers all the bases of smoke detection, includes a test function and an 85-decibel alarm, and uniquely, can be silenced with any standard TV/DVD/audio remote control. How cool is that?

By Gord Goble

Logitech WiLife Video Security System camera



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Security Tips to Protect Your Sensitive Information

Keeping safe and secure online

Identity theft — a type of fraud where someone pretends to be someone else for financial gain — can happen in many ways, be it pick-pocketing a credit card, rummaging through letters from a mailbox or phone scams that trick victims into giving out personal information.

Increasingly, identity theft begins on computers with “phishing scams” on fake websites that look like the real thing but are in fact just designed to trick users in to giving up usernames and passwords. There's another level of personal information capture that uses high-tech means to retrieve information you type on a public computer's keyboard.

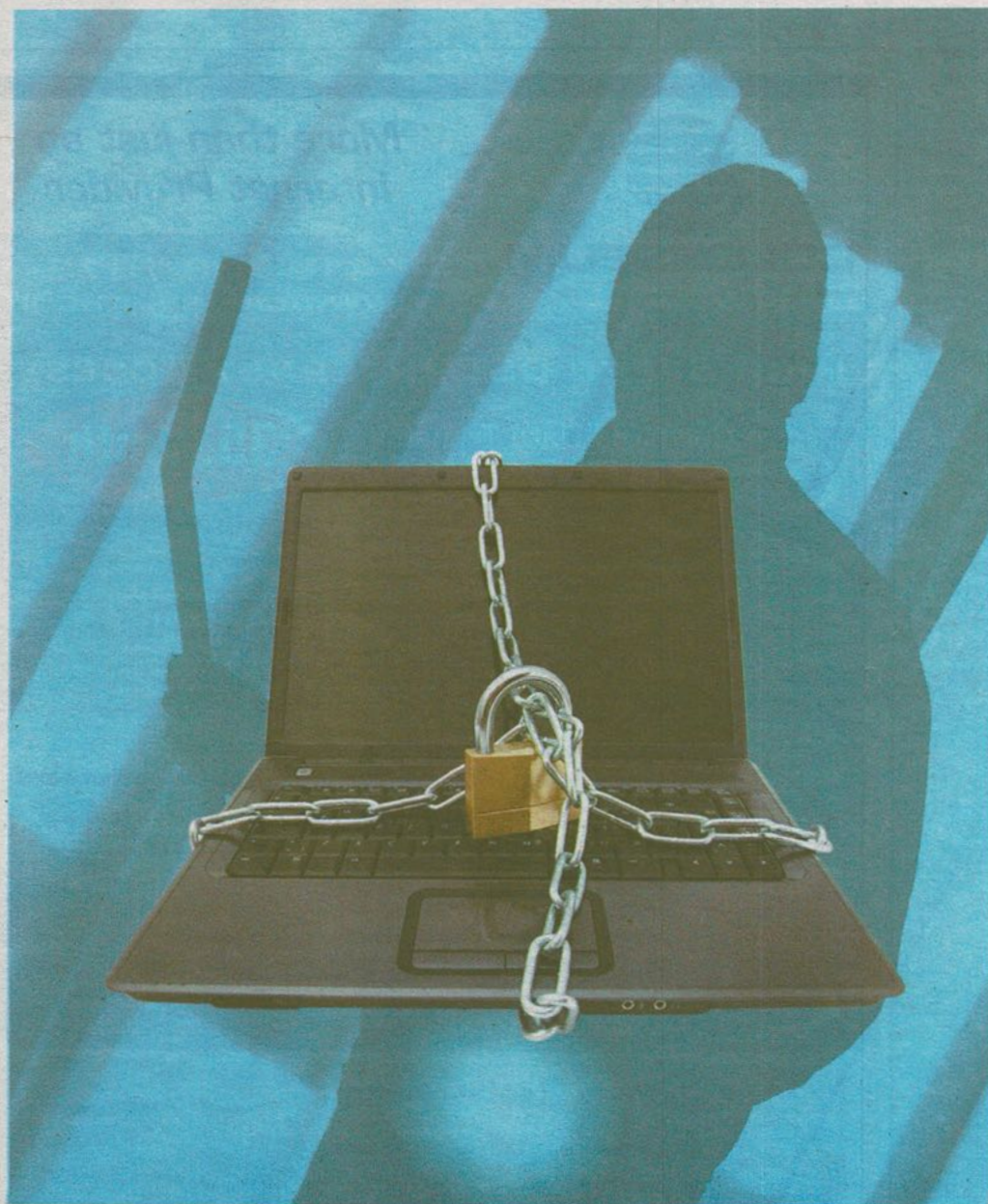
According to PhoneBusters (www.phonebusters.com), a Canadian anti-fraud agency jointly managed by the RCMP, Competition Bureau Canada and Ontario Provincial Police, identity theft is on the rise in this country. In 2007, the organization received 10,279 complaints, of which 9,970 were victims, totalling a loss of \$6,438,123. In 2008, however, by the end of August alone PhoneBusters received 8,233 complaints (7,649 victims), with a valued loss of \$6,573,335.

So, what can you do to protect your identity in an increasingly online world? The following are a few tips for computer users.

- For websites that require a password — such as your banking institution, company site or social networking home — pick one that's at least seven characters and use a combination of letters, numbers and symbols. Don't use your child's name, first dog or phone number or anything else that could be easily guessed.
- If you receive an e-mail from your bank or credit card institution asking you to act fast to confirm your information, it's probably a phishing attempt that will take you to a phony website (look at the URL, not the hyperlinked text, and you should be able to

tell). Do not click on the link in the e-mail to take you to the spoofed site, but if you do, never type in any info they're requesting. When in doubt, contact your bank directly. Computer users should never follow an e-mail link to sign in to what should be a secure site. If there really is an issue with your account, log in to your online banking site by inputting the URL directly in to your browser's address bar. Also consider that reputable sites that deal with sensitive personal information — such as your bank, PayPal, eBay or others — will generally have a policy in place that states they never ask for personal information via e-mail.

- Peer-to-peer file sharing programs, such as LimeWire, may be used by malicious types to steal your private information — so if you use these services, be sure to configure them not to expose personal folders (disable the sharing feature in the Options menu).
- For Windows users, Microsoft releases software fixes on a regular basis. Choose “automatic updates” in your operating system's security settings, therefore you won't forget to manually update them. These fixes plug holes that hackers know how to exploit to gain access to your files. Don't initiate any Windows updates from anyone but Microsoft itself.
- Don't purchase anything online with your credit card unless the website is secured with SSL (Secure Sockets Layer), as indicated by an icon of a padlock in your web browser. On a related note, if you shop on online marketplaces, such as eBay.ca, use a secure payment method — like PayPal or a credit card — to protect your purchases in case of a dispute.
- Symantec, the makers of the popular Norton Antivirus software, say never save your logon information with a website. Always log out by clicking “log out” on the site. It's not enough to simply close the browser window or type in another address. It might be convenient when sites and some programs have an automatic login feature that saves your user name and password, but disable this option so no one can resume a session that you initiated.
- If you set up a wireless network in your home, make sure to use the security features to prevent people from joining (note: WPA security is better than WEP). If a neighbour joins your network, they not only will get free Internet access but could possibly read your computer's files. This is more important today now that 802.11n Wi-Fi routers are offering twice the range of older 802.11g devices. Some routers will allow you to limit the range of your router's broadcast. If it's practical to do so, consider limiting the range to cover the places you use your computers but not beyond.
- Try to avoid entering confidential information on public computers such as in a hotel, library, airport lounge or school. These systems may contain “keylogger” software that records everything you type. Symantec also suggests deleting your browsing history after surfing on a public computer (including your cookies, form data, history and temporary Internet files). Finally, when you're finished using a public computer, do a hard reboot which will not only clear the page file if you've enabled that option, but it will also clear out everything you did from the physical memory (RAM).
- While it might be tempting to sniff for unlocked — i.e. free — Wi-Fi networks at a café or hotel, it could be a nearby hacker baiting in order to get access to files on your PC. Be sure to ask what the establishment's wireless network name is to ensure you're logging on to the correct one.
- Finally, also watch out for low-tech over-the-shoulder snoops at cafes, school or on the airplane. While you might not need those special screens you can buy that obscure the text for onlookers, try to turn down the brightness of your laptop screen and be aware of where and what you're typing while in public.



By Marc Saltzman

Cisco Training

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CCIE # 8423, Telus



Ravi Chandran
CCIE # 8671, Telus



Kamran Adil
CCIE # 10373, Bell Nexxia



Terence Summerville
CCIE # 8927, Infostream



Virgilio Santos
CCIE # 9454, Bell Canada



Santosh Koshy
CCIE # 12028, BT



Darryl Coelho
CCIE # 11992, Bell Canada



S. Kanagasundarajah
CCIE # 12417



Nigel Maharaj
CCIE # 9916, IBM Global Service



Hans Ma
CCIE # 10424, CAA



Raj Thava
CCIE # 10425, Telus



Edwin Lukach
CCIE # 11263



Usman Mahmood
CCIE # 9900, Next Innovation



Giuseppe Giorgio
CCIE # 10422, Next Innovation



Hankeeran Somasundaram
CCIE # 11904, Stargate



Kaushik Narayanan
CCIE # 12087, Telus



Edward Rajca
CCIE # 11112



Garry Low
CCIE # 11433



Syed Mukhtar
CCIE # 11513



Ganesh Shanmugalingam
CCIE # 10662, AT & T



Ahmed Khan
CCIE # 11146



Nadeem Akbar
CCIE # 11610



Fauzan Siddiqui
CCIE # 11653



Amir Syed
CCIE # 12249



Sunil Soporle
CCIE # 11942



Andre Julien
CCIE # 12142, Telus



Sarwar Jamal
CCIE # 11562, Bell Canada



Zar Staroselski
CCIE # 11575, Telus



Snezhy Neshkova
CCIE # 11931, Cisco



Vimal Nanthacumar
CCIE # 12029, Telus



Muhammad Shakil
CCIE # 12143



Craig Henriques
CCIE # 11180, Network Builder



John Lliek
CCIE # 11517



Imran Tauqir
CCIE # 12172, CGI



Abu Uddin
CCIE # 12158, Outsource IT



Ketan Paralkar
CCIE # 12179, Bell Canada



Mahtab Alam
CCIE # 12171, Compugen



Haroon Shafaat
CCIE # 12088, EDS

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	Mehrdad Mostafavi, CCIE # 10383
	Sarumathy Vijayakumar, CCIE # 10385
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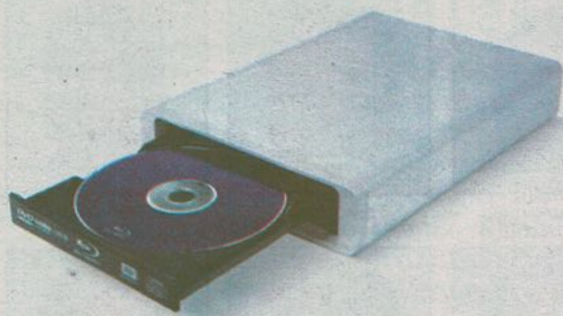
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Portable Data Storage

The ins and outs of where to keep your precious files when you're taking them on the road



Whether you're a lawyer, banker, broker or a student studying to be one, chances are you've got digital data that you want to store. What method you use to store and back it up is entirely up to you, but one thing is certain: you're going to want to store it someplace. Generally speaking, that place will be on your computer's internal hard drive. It's quick, it's easy, and it's readily accessible.

But maybe that someplace shouldn't be the computer, either because yours is getting close to capacity, or because it's a file you're going to be taking on the go with you. Or, because as everyone knows (or should know by now) you need to make sure you have a backup (or two) of any and all important files.

Whatever the reason, there are plenty of devices to choose from that all do a great job of retaining information. And for the students out there — of all disciplines and studies — there are storage spaces of all shapes and sizes depending on the size of file you intend to store.

Room to decide

Where options were few in the past, in the days of limited hard drive space and floppy discs, now we have plenty of portable storage media to choose from. For a lot of smaller files like documents, spreadsheets, low-quality images and multimedia content that may require revision, there are USB keys and even SD and microSD cards. For straight archiving and read-only backup of files and folders there are discs, ranging from CD-Rs and CD-RWs to DVDs and Blu-Ray discs. And for large files and heavy multimedia requiring read / write access, there are portable hard drives and enclosures which can range from about 100 GB up to 2 TB (~2,000 GB).

We're going to go through all of those storage devices as well as what type of student each would be best suited for.

SD or microSD:

The majority of recent laptops and "netbooks" feature an SD card slot. Desktop PCs often have a card reader slot and when no card reader is present, an external card reader can be purchased for \$20 or less. However now that most people have a digital camera which stores pictures to SD (or microSD) and many people have a smartphone or palm pilot with one of these types of cards as well, storing small files onto these devices can be a good way to move files between platforms.

As was previously mentioned, a backup routine with redundancies should be considered a requirement for important files. microSD and miniSD cards are most commonly found in the range of 1 GB to 4 GB with standard SD cards appearing in about the same range with larger storage capacities coming down the pike. SDHC (secure digital high capacity) cards are becoming more common with potential to have up to 32 GB on a card.

Ideal for any student who is working with small files such as text documents, PDFs, or even modest quantities of pictures and music, SD cards are actually an ideal way of keeping a backup of files. The only problem is that not every computer has a card reader. That means that if yours doesn't, you'll either have to carry a card reader on you, or simply carry the USB cable that connects your device to the computer so you can access your card.

Of course, if you are a netbook user (see last issue's In the Lab: Computing in the Clouds) SD and SDHC cards are your best bet for small-scale portable storage. Some netbooks feature more than one SD slot, allowing you to keep a card of up to 32 GB attached at all times for boosting your limited hard drive space, yet still be portable for when you need to move to a different machine.

External hard drives:

On the other side of the size spectrum are external hard drives. These things can carry a tremendous amount of data, be it a 250 GB hard drive or a 1 TB (1,000 GB) drive. The drives are portable and connect either via USB, Firewire or the much faster but not yet ubiquitous eSATA standard, to connect to your PC or laptop.

With that much data storage space, external hard drives are ideal for students who are working with files that demand a great deal of drive space, frequent back-ups, or saving multiple versions of the same file.

This would make the external hard drive the back up data storage device of choice for the average multimedia student.

Whether someone is working on their next album remix with four or five different variations of each track or working on editing a half-hour video with different files saved after every hour of work, they will still have ample space on one of these. The only problem of course is the physical size of the hard drive for those who don't want to carry too much extra baggage.

Discs / burners:

As for discs, CD burners and even DVD burners practically come standard with laptops nowadays, so it seems logical to keep a couple of blank discs of one kind or another on you at all times. Also, with dual-layer DVDs being able to carry over 8 GB of data, keeping discs close at hand make it possible to do a system or file backup anywhere.

CDs can typically carry up to 700 MB of data. While most music albums come on CD and would only fit about 80 minutes of audio, that's not to say that a CD wouldn't be able to hold many more songs in MP3 format, or many, many Word documents or other files.

DVDs can carry about 4.7 GB of data if they are single-layer discs and roughly 8.54 GB if they are dual-layer. That's more than 10 times the capacity of a compact disc, and should be enough for all but the most complicated video editing files.

With CD and DVD readers being in 95 per cent of the computers out there (the MacBook Air and netbooks primarily making up that other five per cent) discs are undoubtedly the most versatile, if not the most compact means of backing up and transporting data. The only devices that are more portable would be the USB keys...

USB keys:

USB keys can go all the way up to 64 GB, although the higher capacity models might clock in at quite a bit more than one is willing to pay for such a small — and easily lost — product. USB keys are tiny enough to fit into a watch pocket and most come with a strap that you can use to wear around your neck so that you always know where it is.

Naturally, USB keys are used by plugging into a USB port, standard on any computer post-2001. Once plugged in, they can run applications directly off the key, act as a separate hard drive, or can be used for such tasks as calling long distance through Skype or speeding up your computer (similar to RAM) by activating ReadyBoost within Windows Vista.

USB keys are also affordable and reliable. Guaranteed for thousands of rewrites and costing about \$20 for a 1 GB stick, these keys are great for transporting moderate amounts of data or for using as a primary or secondary backup. They're more durable than CDs, DVDs, standard hard drives or SD cards, and are much more portable than hard drives if you want to haul your files around.

By Dorian Nicholson



An Xbox for Xmas

X'08 showcases Xbox 360 holiday lineup

Gamers in Canada often find themselves quite far from the centre of gaming events and news of upcoming titles when compared to our southern neighbours, the hosts of the annual gaming spectacle, E3. Once a year though, leading up to the holiday season, the big three gaming companies put on their own shows. Most recently it was Microsoft's Xbox 360's time to shine.

The preview event took place at Circa in downtown Toronto and transformed the hip nightclub into a haven for gamers, reporters, gamer-reporters and, of course, developers, PR pros, company big shots and acolytes.

While Xbox 360 was the only platform at the event, that's not to say that the range of games was limited.

Present were games from more than a dozen third-party developers, including LucasArts, Bethesda, Activision, EA, Square Enix and Konami. Naturally, there were also a number of games from Microsoft Game Studio as well, including Gears of War 2 and Fable 2.

The Gears 2 section was set on the second level, above the action on the main floor. There, plugged in

and ready to play, were twelve units all networked and ready for multiplayer mayhem.

Your friends here at HUB managed to play a few rounds of a new match type called "Guardian," in which each team gets unlimited respawns until the team leader is finished off, then the game switches gears and becomes a last man standing battle. The game promises to be every bit as intense and impressive as the first, with a new story, campaign, new weapons, and new features. (For example, the editor-in-chief and I had a little battle of wills with chainsaw bayonets — I won.)

While Gears was easily the largest exhibit, it was by no means the only attention grabber. Down on the floor were a collection of eagerly-anticipated titles such as Guitar Hero: World Tour complete with the new drum kit with the cymbals above — and Call of Duty: World at War.

The new CoD is graphically impressive, with lighting and particle effects all aglow and the battlefields looking more realistic as well. The gunplay feels considerably more true to life this time out. While some gamers following news of the CoD sequel may have already heard about the developers taking a more gritty approach, seeing the game in action is the only way to really understand what they were talking about.

A double-barrelled shotgun really hurts people like we can only assume a double-barrelled shotgun would. An incendiary grenade lights people on fire, and it actually looks pretty painful. It is an impressive graphical feat that can seem almost too grisly.

It's a logical step in the Call of Duty series though where realism was traditionally eschewed in order to receive a Teen rating from the Entertainment Software Ratings Board (ESRB). The Call of Duty: World at War development team decided not to compromise and just accept a Mature ESRB rating, resulting in a more believable but altogether more gory game.

Fallout 3 and more...

Another highly-anticipated and rather gory title, Fallout 3 marks a milestone for the series by being the first

game in the series to test the waters of three-dimensional gameplay, an understandable move considering it has been a decade since the release of Fallout 2.

This one starts you off inside a vault (Vault 101, "Jewel of the Wastes") with the player having to take the first steps into the outside world armed only with a pistol. The effect of seeing natural light for the first time once stepping outside is quite dazzling, a very nice touch that shows great attention to detail. Of course, this is Bethesda we're talking about, the same company that brought us The Elder Scrolls IV: Oblivion. Fallout 3 also uses the Oblivion engine. With this engine, players can put almost anything into their inventory, or at least drag or move most small to medium-sized objects.

Walking forward through some ruined town with the capitol buildings way off in the distance, you will come across a couple of wanderers. When I played, I tried to talk with them or even barter some of the pop caps I had picked off the ground, but they immediately opened fire. Turns out there was a raider behind me that they picked off quite cleanly. A nice effort, but it still dissuaded me from further conversation.

The next raider I saw I experimented with the targeting system, born of the original Fallout and still present even in the real-time FPS third instalment. Players can target anything from an enemy's head to the weapon they're holding. Alas, shots to the groin or eyes are now out; Bethesda's attempt at making for a clean fight.

After prying myself away from the Fallout 3 booth, I checked out a few of the other booths, some of which were slightly more appropriate for younger gamers.

Banjo-Kazooie, a Rare developed game that debuted on the N64, is back with its first Xbox 360 instalment. Banjo-Kazooie: Nuts and Bolts has players directing their favourite bear-bird duo through a new adventure as they try to outrace the evil witch Gruntilda using fully-customizable vehicles provided by Mumbo the witch doctor. With hundreds of components to choose from, vehicles can range from four-wheel drive monster trucks to flying saucers with egg cannons attached.

Spiderman: Web of Shadows looks like another killer Spiderman game, this one allowing players to hook up with other Marvel characters in game and choose between being a friendly wall-crawler or a masked menace running around in the Venom suit. Players can also customize abilities and skill sets, allowing them to excel in aerial attacks or ground-based destruction, specializing in wearing the red suit or the black.

Other games of note included Square Enix's upcoming action-RPG Infinite Undiscovery, developed by Tri-Ace of Star Ocean fame; Fable 2, sequel to the blockbuster Xbox RPG; Silent Hill Homecoming, the first Silent Hill game to appear on next-gen platforms; Sonic Unleashed, a fast-paced platformer that promises to deliver excitement fast; and Star Wars: The Force Unleashed, in which you play as Darth Vader's apprentice and get to customize your force powers.

All of these titles and more will be released in the months to come.

By Dorian Nicholson



Banjo-Kazooie: Nuts and Bolts



Spiderman: Web of Shadows



Star Wars: The Force Unleashed

On Online HD Deliverance

High-def and the demise of physical media... maybe

Let's talk high definition (HD) video. In particular, let's discuss where we're going to get our HD video in the future, especially for our leisure, TV-watching hours.

We'll preface our discussion by defining what HD video is, and what it isn't. It isn't what you see on standard TV. It isn't what you see on a VHS tape. And it isn't even what you see when you watch a standard DVD. All of these sources top out at 480 vertical lines of resolution or lower.

HD, conversely, currently comes in two flavors, 720 or 1080 lines of vertical resolution — further broken down by the "p" and "i" suffixes, meaning progressive and interlaced, respectively — and is noticeably cleaner and more detailed. Colors are more vivid, object edges are crisp, and of course the 16:9 aspect ratio of HD delivers the same panoramic image we see at the theatre.

This is the stuff of HDTV and Blu-ray players, and most people who see it have a tough time going back to less sophisticated fare.

And soon, no one will have to. HD video is the future, and it won't be long until prior technologies go the way of the 8-track. One needs look no further than the big box electronics stores and the latest trends in television sets to see how true this is. In keeping with the Canadian government's mandate that all broadcast signals in this country move from analog to digital as of August 31, 2011 (2009 in the USA), virtually every set features a digital tuner.

Yet even though HDTV technology hasn't been likewise mandated, the vast majority of these sets also feature HDTV compatibility. Why? Because HDTV looks that

good and because TV manufacturers know HD is an unstoppable force.

But broadcast TV is one thing. Movies and videos that you can view when your schedule says you have the time to do so are something else altogether. One might assume that we'll just keep on traipsing down to the local Blockbuster to rent or purchase Blu-ray HD movies, just like we did for VHS and DVD.

The Internet killed the rental store

While there's a certain allure to owning hard copies of the flicks we particularly enjoy, who among us can honestly say we enjoy movie availability hassles and late fees? Never mind paying for the time and gas used to drive there and back, twice.

A potential alternative — one that's already on its way to becoming reality — is downloadable HD Internet content. Granted, that's a relatively general term that can mean a lot of different things to a lot of different people. Indeed, it's even been bandied about — incorrectly — to describe YouTube's "HD" videos, which are definitely a grade higher than standard Internet video fare but are most definitely not true HD.

For our purposes, HD Internet video is true HD: 720 or 1080 lines of vertical resolution with sophisticated multi-channel sound that looks and sounds just as good on your big screen living room TV as the latest Blu-ray disc.

If the concept sounds intriguing, that's because it is. Imagine sitting in your easy chair, selecting an HD movie or video from a near-endless menu, watching said movie/video when you want to — without the

need for a disc player of any sort — then switching off your TV and going to bed. No returns in the morning, no careful handling of a disc, no extraneous concerns whatsoever.

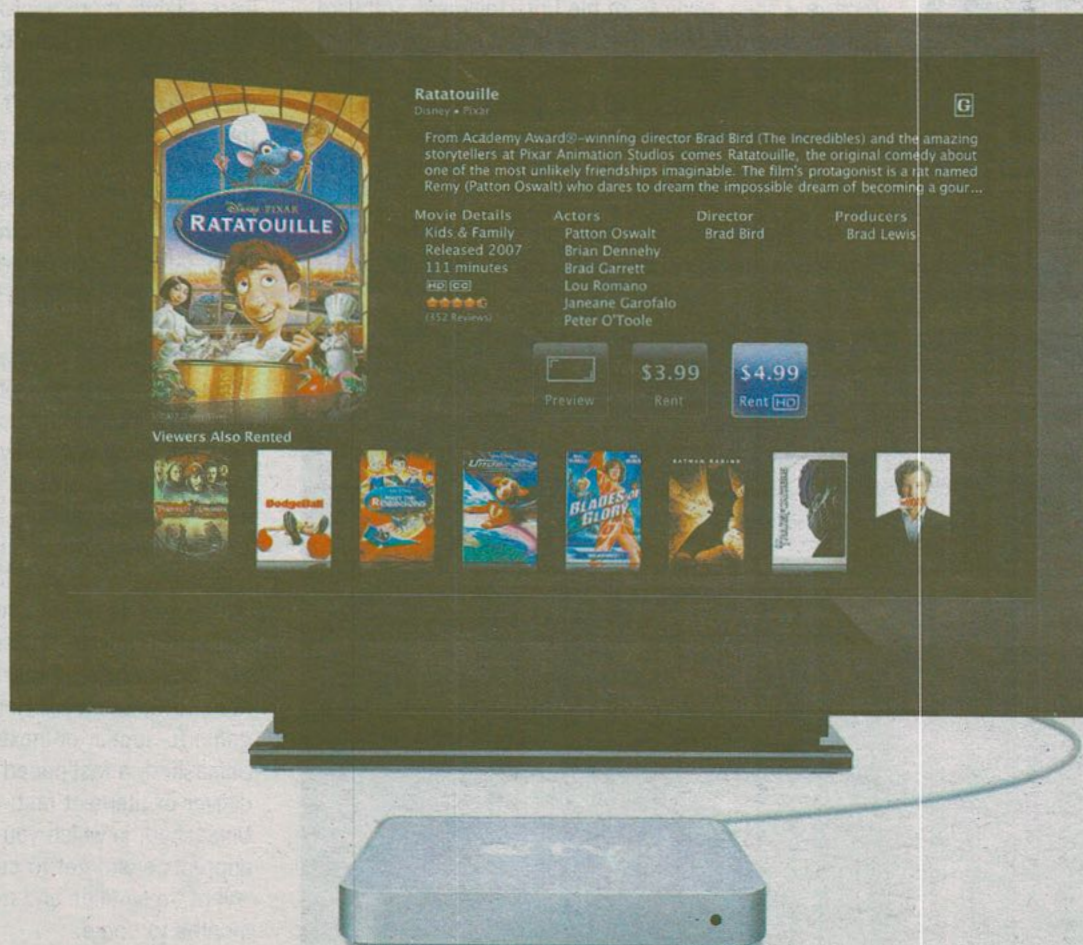
The question is how that HD content arrives at your TV. And, sadly, there are no easy answers. About the only certainty is that video rental stores are on weaker footing now than they were a few years back. And the primary reason for that isn't the threat of online video downloads, but the appearance of online DVD rental firms such as Zip (www.zip.ca), Starflix (www.starflix.com), and Cinemail.ca (www.cinemail.ca), all of which stick to the "rent a disc, return a disc" philosophy, but do away with late fees and much of the hassle of old school brick and mortar rental businesses.

But to those who believe in HD video and the Internet as the delivery medium of that video, online disc rentals are merely a stop-gap.

Straining the infrastructure

The big hurdle is size. We won't get into the excruciating technological minutiae, but suffice to say a full-length HD movie is a very big clump of data. It must therefore be compressed to a manageable size that won't take hours (literally) to download and won't put undo pressure on already-pressurized Internet pipelines. Which form of compression is the best is still in question.

Bandwidth (the measurement of how quickly information can be moved from one point to another) is another key factor. You'll obviously see better results



with a faster connection, but the bigger issue is the quality and composition of the cables that form the gridwork of the web (I thought it was a series of tubes... -ed.). Thankfully, that gridwork is being continually updated — more so now than ever because of technologies such as downloadable HD content.

Still, the truth is that results can't be guaranteed in an environment where standards are as yet undecided and where the framework of that environment is in a state of flux. And remember — what might work very well for one person in a particular area or building may not work so well for another in another area with less capable Internet delivery.

A is for Apple

But despite the questions and the unresolved standards, downloadable HD content providers are already here. Arguably the foremost of these is Apple, with its Apple TV. The Apple TV concept revolves around its sleek set-top Apple TV box (\$249 or \$349, depending on the size of the hard drive), which in itself does away with the need for a full-blown computer to get digital content from the Internet to TV set.

The service offers a ton of content aside from HD movies, including non-HD flicks, YouTube videos, television programs, music and music videos, and much more. Rental rates are currently equivalent to that of a movie rental store, and Apple claims that you can begin watching your show within just a minute of beginning the download process if you have a fast Internet connection.

The reviews, however, have not always been kind. Some complain of digital artifacts (caused by faulty compression), and others say movie download times are surprisingly long. Still others bemoan the fact that when Apple initially rolled out the device in Canada, it offered virtually no movie content. In the USA, meanwhile, users were able to choose from a massive library of mainstream movies. That situation has thankfully since changed, though the selection continues to be more limited than that of a brick and mortar store.

Bravo Bravia?

Electronics giant Sony is approaching the whole idea from a slightly different angle. This fall, Sony will offer the recent Will Smith flick *Hancock* as a worldwide Internet

download to owners of its Bravia TVs and Bravia Internet Video Link box. It's uncertain at this point if *Hancock* will be available in HD, but the truly interesting bit of information is that Bravia owners will get to see the movie before it hits traditional rental stores and the DVD/Blu-ray market. Granted, Sony has made it clear that it considers the move an "experiment," but experiments like this may be a sign of things to come.

Other, American-based services — such as Vudu (www.vudu.com), which currently offers its own set-top box and more than 6,000 HD movies, and Amazon's Unbox, which doesn't yet support HD content but provides oodles of non-HD content and apparently works well with the long-established TiVo (personal video recorder) unit — simply do not do Canada at this time. Nor does America's leading online DVD rental service Netflix, with its Netflix Player by Roku (www.roku.com/netflixplayer). The little device allows users to instantly watch more than 12,000 non-HD movies in the Netflix library where HD titles are apparently on their way, but it won't be seen north of the border.

Perhaps that's a blessing in disguise. As discussed earlier, there are several reasons downloadable HD content hasn't yet come of age. But aside from video compression and Internet speed questions, there's one very important factor we haven't even touched upon — digital rights management (DRM).

Until the major movie studios can come to an agreement as to how they'll deal with piracy and other unauthorized uses of their precious properties, and until Bravia owners can have access to the same content as Apple TV owners and Vudu disciples, consumers will be faced yet again with a question of which technology to back. And as anyone who has monitored the recent and oh-so-painful HD DVD versus Blu-ray battles can attest, uncertainty severely impedes adoption.

One thing is certain: the selection of HD movies is currently better and more stable offline than on. One can only speculate if that will be the case by the time we say goodbye to 2008.

By Gord Goble

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Power Pellets: Fan Ire

Diablo III comes under fire

The long-awaited second sequel to Diablo, Blizzard Entertainment's massively popular series of dungeon-crawling role-playing games, was announced this summer at a special event in Paris. The California-based developer revealed only the barest of details about the game, mentioning a few familiar locations and characters (including the series' perennial guru and guide Deckard Cain) and that it will support both solo and multiplayer campaigning. They didn't even provide a projected release date, even though the game has been under development in secret for some three years.

Despite the scarcity of information, the announcement of a new chapter in the Diablo saga resulted in a collective cheer from franchise fans that was heard echoed over forums, blogs, and gaming news sites across the interweb. This was predictable; the series' acolytes have been pining for a new installment in their favourite dungeon crawler for nearly a decade. What wasn't expected was the massive backlash that came from some of these same people.

After poring over the few images and videos that Blizzard had made available (all viewable at www.blizzard.com), fervent fans began questioning Diablo III's look and feel, suggesting that it didn't jibe with the series' established aesthetic. They said that its visual design seemed more inspired by the colourful fantasy environments of World of Warcraft, another of Blizzard's most successful brands, than previous Diablo games, which, they claimed, were far darker and more dramatic. Some of the more ambitious complainers even went so far as to modify some of the Diablo III screenshots Blizzard had released to the public to make them appear more in line with what they thought the game should look like.

Taking it to the Net

These criticisms culminated in a lobbying document posted at www.petitiononline.com dubbed "Renewed Artistic Direction for Diablo 3." An astounding 56,500 people had signed it at the time of this writing. To put that number in perspective, it's roughly equivalent to the famous RuinediPhone petition signed by Canadian consumers this summer that helped force Rogers into offering discounted data plans for Apple's web browsing handset. Could the Diablo III petition spur Blizzard to action as well?

Not likely.

For starters, Diablo III lead producer Keith Lee has gone on record with many game publications stating that his team approached the design of the game with the firm belief that "colour was our friend," adding that much of Diablo III takes place outdoors and in daylight, which necessitates brighter environments.

And, as more than one observer has pointed out, 55,000 angry fans may seem like a lot, but in the grand scheme of things it represents only around 0.3 per cent of the 18 million people who have purchased Diablo games to date. What's more, the zealot-like nature of game fans makes it probable that these plaintiffs will purchase

the latest game regardless of whether Blizzard acquiesces to their demands.

The most interesting commentary on the Diablo III art debacle so far has come in the form of a droll article with the headline "The Internet Hates Diablo III," published on the comedy web site SomethingAwful. The author, using Stephen Colbert-style sarcasm, cleverly reminds us that some of the villains and environments in the first two Diablo games were, in fact, far more colourful and cartoon-ish than anything yet revealed in Diablo III.

And, indeed, it does appear as though time has tainted some players' memories. In viewing the few screens we have of Diablo III beside images taken from its predecessors, it becomes plainly obvious that comparing the new Diablo to those of years past is rather like comparing Ralph Bakshi's decades-old Lord of the Rings animated film with the more recent live action movies made by Peter Jackson. The third game in the series has a gritty and darkly beautiful three-dimensional aesthetic that the earlier entries in the series simply cannot match. It is folly to languish in the past.

However, I doubt that even side-by-side screenshots will quell the dissatisfaction of those who disapprove of Diablo III's artistic direction. Interactive entertainment has become art. And, for better or worse, beauty is now in the eyes of the gamer.

Spore

Reviewed on: A 17-inch HP Pavilion DV7-1038CA notebook with 4 GB of memory, an Intel Core 2 Duo processor running at 2.0 GHz, and nVidia's GeForce 9600M GT graphics chipset.

Score: 3/5

In retrospect, Spore, Will Wright's long anticipated evolution simulator, was destined to disappoint. It had been the subject of so much media attention over the last half decade that there really wasn't any way that it could live up to what fans had come to hope it would be. The finished product is an undeniably creative and original piece of interactive entertainment, as most suspected it would be. It just doesn't deliver a particularly compelling gaming experience.

Spore's aim is to give players the power to create and develop their very own sentient species over the course of five separate stages of evolution. And, thanks to some truly powerful and accessible 3D modeling software, it succeeds wildly in giving players godlike powers to mould their creatures into almost any form imaginable.

What's more, this power expands beyond creatures to include buildings, clothing, military hardware, and even space ships. Virtually everything we see and interact with on screen can be shaped and customized however the player sees fit. There is nothing else like it in the world of games — especially once you factor in how



A dark and deadly fight in Diablo II



More colourful carnage in Diablo III



everyone's creations are downloaded to EA's servers, where they are randomly distributed as wildlife and structures in other players' games. It's a brilliant idea. Expect to see it pilfered by other developers.

However, creating and sharing critters and architecture does not a video game make. You also need interesting objectives, rewards, and strategies, and this is where Spore falls down.

The five stages of evolution are, in fact, five discrete games. Spore begins with an arcade-like challenge that has players trying to keep their simple, cellular organisms alive in a vast primordial soup, then progresses through several other games and activities of escalating complexity before ending with an epic quest to conquer the

galaxy by travelling from one star system to the next.

While the idea of binding several unique gaming experiences to the evolution of a single species is fascinating, Wright's team has botched the execution, delivering rudimentary and repetitive challenges that get tiresome in short order. The tribal stage, for example, which has as its goal the conquering of five rival villages, involves little more than collecting food, making babies, outfitting warriors, and attacking buildings. It gets wearisome about halfway through the 90 or so minutes it takes to complete.

What's worse, some stages feel like inferior rip-offs of other games. Case in point: The civilization stage, the objective of which is to conquer the globe through military, religious or economic means. If it sounds familiar, that's because it is essentially a simpler, second-rate version of Sid Meier's much-loved Civilization games.

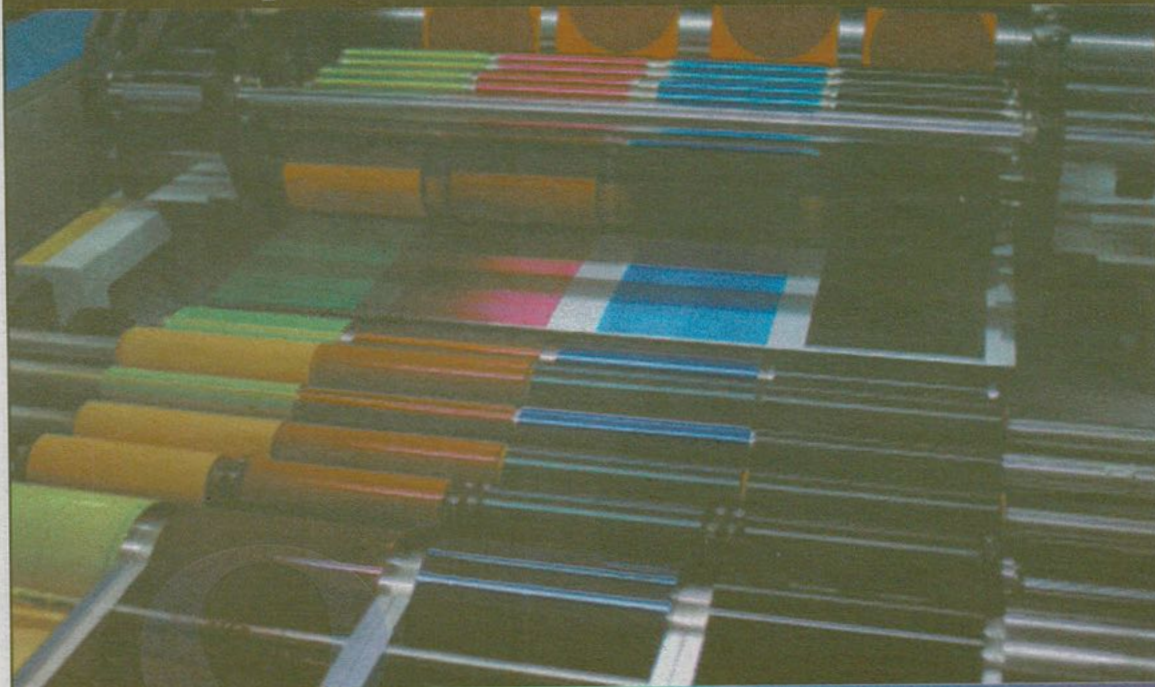
Still, some of the stages can be quite entertaining. The creature phase sees players' species emerging from the oceans and struggling to earn the right to exist on land as they encounter dozens of other fledgling animals and collect various bits of DNA that can be used to their advantage. And the space age stage is wonderfully empowering, giving

players the ability to explore virtually any planet in the galaxy where they can set up terraforming projects and meet other races. Unfortunately, you have to wade through hours of mediocre play to get to it.

Wright has proven that he's a master of creating massive sandboxes in which we can tinker and experiment to our hearts' content. Now he just has to show us that he can turn this player-powered creativity into something more than just an interactive toy; something that feels like a real game. Spore was supposed to be that game, but it seems we'll have to wait at least a few more years for him to give it another go.

By Chad Sapieha

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Geeks and Pocket Projectors

The birth of the truly portable projector

The first video projector I set my eyes on back in the early '90s was a 100 pound, three-tube affair made by Barco which threw out all of 600 lumens. The resolution was regular video (640 x 480) and just renting it for one day back then cost as much as buying a new one today.

But that was then and this is now.

Yes, projectors are poised to be part of your cell phone within the next year or two. That's right, not as big as a cell phone but part of a cell phone or about a thousandth the size of the aforementioned tube projector. Imagine, you will finally be able to project "Kick Me!" on your boss's back without the cumbersome evidence of tape, paper, a slap on the back and your uniquely identifiable handwriting.

Not only is workplace bullying going to be revolutionized, you'll also be able to play games of a reasonable size with your cell phone too. Pico projection may really make a difference in one of the most limiting factors of portable electronics to date — screen size. Just think of surfing the Net and reading your e-mail without awkwardly scrolling through pages to do it. Also, you will be able to watch The Blair Witch Project or episodes of Lost while out camping instead of staring at those boring stars and relaxing.

Texas Instruments has been demonstrating a hollowed out BlackBerry running as a projector using their Digital Light Processor (DLP) technology being driven by LED backlights. Because LEDs run bright and cool using very little power, you can stick them into a really small space without melting everything in sight or causing a fire.

The difference between that and a standard projector is that with a regular projector you have a single lamp which must have its white light split into red, green and blue colours. Each colour is masked via some sort of imager and then the primary colours are recombined to make a full colour image. In a DLP projector, recombining is done using a colour wheel. The wheel spins around really fast and has a red, green and blue gel covered hole that shows the colours sequentially. This happens so fast that your eyes add them together and you have your image.

Well, this whole wheel assembly can be dumped in a DLP pico projector as you can just have three differently coloured LEDs turning off and on very quickly. This saves space and power.

Texas Instruments isn't the only midget cowboy in Tiny Town either. Microvision is a lesser known company who has created a system that has been demonstrated and is scheduled to hit the shelves... at least, eventually. Instead of using a DLP chip with thousands of tiny mirrors reflecting regular old light at various strengths, this system uses three coloured lasers that scan the picture, much like your old CRT used to, but with an electron beam. It uses just one light-deflecting mirror instead of the thousands used in a DLP.

The potential of this system for further miniaturization is likely to be greater than DLP due to a simpler construction of the mirroring chip and the lasers not requiring a lens to be focused. The lasers are always in focus as the beam doesn't spread out like regular light. However, a potential limiting factor of this system is the speed of the mirror bouncing the lasers onto the projection surface, which determines resolution. The faster the mirror scans the lasers across the screen, the more lines of resolution it can present in a single pass.

Another issue specific to using lasers is something called speckle. When laser light hits a surface, it has light and dark spots appearing all over it. It is "speckled" looking. This interference pattern is caused by the single wave nature of lasers and isn't very helpful when you're trying to represent an image other than, well, laser speckle. Very distracting.

One company directly addressing this issue is Light Blue Optics which has a system that uses lasers bouncing off an LCOS (Liquid Crystal On Silicon) chip. This works much like a DLP imager in that it reflects light but instead, it's reflecting a laser beam with a slight twist. They call it Holographic Laser Projection as the LCOS chip is actually using a diffraction pattern which in effect steers the light as opposed to just blocking it. It's essentially an electronically controllable hologram. That ability to steer light allows the chip to put light at different places on the screen which facilitates error compensation for dead pixels, non-flat projection surfaces, dust in the light path and speckle reduction. Reflecting from a different part of the chip to fill in a same given pixel helps stagger the light from a laser so that it starts acting like regular light, losing that weird lasery look as the light waves are offset.

Whichever technology gets adopted, it will be a nifty and useful feature for a cell phone to have, although expect stand alone units to come out first.

Unfortunately, there are a couple of things that are going to be problems no matter what. At present, the lifespan of a typical battery while using a pico-projector is about 1.5 hours, which almost finishes a movie and most certainly would finish your cell phone. It's still in the early days but, no matter what, pico projectors will have you running to the recharger sooner rather than later. Also, you need to find a white surface in a dark room. Ambient light washes out projected images like there's no tomorrow so there will be some restrictions as to where you can use it.

All in all the future is bright and pico projectors are something to look forward to. Just don't wear white, not after Labour Day, not ever. Lest you be painted with a digital "Kick Me" sign.

By Andrew Carruthers



Optoma's Pico Projector, displayed at InfoComm 2008

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The Last Byte

What we can learn from iPhone girl



I read about iPhone girl in the Globe and Mail at the end of August, as her story was flashing around the world. The HUB Canada website also carried a story about her, as did a number of other online news sources including PC World, Yahoo!News, CNet and USA Today. When you read this column at least a month will have passed since it was news, and you will probably have forgotten all about it. To recap, a guy in the UK purchased a new iPhone and found a photo on it of a young Asian female smiling into

the camera and flashing the peace sign. What looked like a factory assembly line was in the background. He posted the photo online and wondered if anyone else had the photo on their iPhone. Apparently no one else did but the message board soon became populated with speculations about the iPhone girl — who she was and whether these apparent assembly line antics would get her fired, etc..

According to the AP/AFP story carried by the Globe and Mail, further investigation discovered that the female was in fact an employee of Foxconn, the Taiwan-based company Apple contracted to make the iPhones. Foxconn's explanation: the photo was taken during product testing and someone simply forgot to delete it before the phone was packaged.

A story from NewsFactor Network, which was carried by HUB Canada, put a more conniving spin on the incident. NewsFactor writer, Patricia Resende, raises the idea that the whole thing might have been a publicity stunt to show happy workers and good working conditions. Resende goes on to explain that a British newspaper reported appalling working conditions at the plant in 2006, which prompted Apple to investigate conditions for itself. What it discovered was a factory in violation of Apple's supplier code of conduct. The company agreed to improve working conditions, hours of work, etc..

Fast forward to the present and the charmingly happy iPhone girl communicating the subtext "everything is groovy here."

Maybe someone could make a case for the iPhone girl being a brilliant piece of viral marketing but I think there are too many uncontrolled variables or dubious motivations for that, starting with the guy who found and posted the image in the

first place. If I had found that on my new iPhone, I would have immediately deleted it without much thought to its source or purpose. I would have dismissed it as just another useless sample of the kind tech companies like to include with their products — just in case we've never seen a digital image or an MP3 music file before. But maybe he was a Foxconn operative. Maybe...

One thing iPhone girl gives us is a progress report of our march towards a global village. That journey started in ancient times with oral reports of exotic and exciting places far away, gained a wider audience with books and broke through time barriers with the immediacy of radio and television. The Internet adds the next piece to the global village: global dialogue in real time.

Have we arrived at that global village so many media theorists have predicted for so many years? In some respects, it seems so. Those who cared about iPhone girl formed a community that shared something mutually interesting to them just as two suburban neighbours might talk up their passion for whatever over the back yard fence. Pick any topic you care to and you find both serious and casual discussion popping up on the Net. That's one of the hallmarks of Web 2.0, the social Internet. The iPhone girl is our version of the mysterious stranger that passes through a village — and becomes an immediate but short-lived topic of idle conversation. But the technology also allows geographically diverse individuals to come together on more serious issues. One of the things you may have noticed during our current federal election campaign (and also the presidential election happening south of us) is the increasingly important role the social Internet is playing in political debate. I'm writing this just a few days after the election was called, but I note that one of CBC's reporters will be following the election process as it plays out on the web. This isn't a new phenomenon, but is an increasingly significant force in determining the outcome — at least as important as the stumping, baby hugging and "debates."

Until next time,
David Tanaka

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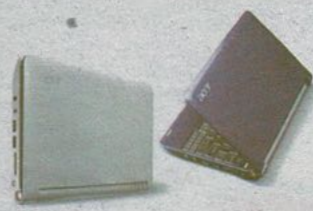


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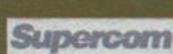
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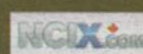
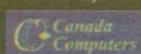


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